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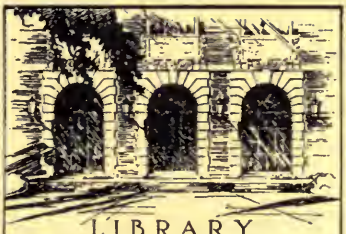
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STUDIES OF CENTRAL AMERICAN PLANTS—IV

BY

PAUL C. STANDLEY

CURATOR OF THE HERBARIUM, DEPARTMENT OF BOTANY

AND

JULIAN A. STEYERMARK

ASSISTANT CURATOR OF THE HERBARIUM, DEPARTMENT OF BOTANY

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STUDIES OF CENTRAL AMERICAN PLANTS—IV

PAUL C. STANDLEY AND JULIAN A. STEYERMARK

Almost all the new species described on the following pages are Guatemalan and were discovered during the four botanical expeditions to that country conducted on behalf of Field Museum of Natural History by the authors. The paper includes a few nomenclatorial changes found necessary in the course of preparation of the *Flora of Guatemala*, manuscript of which is now well advanced. The manuscript for the family Vacciniaceae on the following pages was contributed by Dr. A. C. Smith of the Arnold Arboretum, and that of the Apocynaceae and Asclepiadaceae by Dr. Robert E. Woodson, Jr., of the Missouri Botanical Garden.

BUTOMACEAE

Hydrocleis Standleyi Steyermark, sp. nov.—Caespitosa, rhizomate abbreviato; folia longipetiolata, petiolis teretibus 25–30 cm. longis; lamina foliorum natantium firme membranacea ovalis vel late oblonga, basi et apice rotundata, 4–6.7 cm. longa 3–4 cm. prope medium lata, utrinque areolato-reticulata, nervis lateralibus 6; scapi 8–10 et 17–29 cm. longi umbellatim 5–11-flori; bracteae oblongo-lanceolatae vel ovato-lanceolatae, subacutae vel acutae, 1.8–2.5 cm. longae; pedicelli adscendentes apice paullo dilatati, 3–5 cm. longi; sepala membranacea erecta lanceolata, subobtusa vel subacuta, 15–19 mm. longa 3.5–4 mm. lata, costa excentrica, dorso carinata; petala lutea 6–7 mm. longa oblongo-obovata subobtusa; stamina fertilia 6, sterilibus 2–3, filamentis complanatis 2.5 mm. longis glabris; antherae oblongae 1.3–1.5 mm. longae; ovaria 3 lanceolata, stylis brevibus; follicula membranacea 12–13 mm. longa; semina numerosa hippocrepiformia brunnea 0.8–0.9 mm. longa.—Guatemala: Dept. Jutiapa: In swamp on plains along the railroad, between Agua Blanca and Amatillo, alt. about 950 meters, October, 1939, *Julian A. Steyermark* 30416 (type in Herb. Field Mus.).

Apparently related to the South American *H. parviflora* Seub., from which it differs in its acute rather than acuminate, more numerous bracts, which are broader and of a different shape; in the many-flowered instead of 2–3-flowered umbels; in the larger, obtuse or subobtuse rather than acutish leaves; in the fewer stamens; and in the wider, more bluntly tipped sepals.

CYPERACEAE

Scleria latifolia Swartz, var. **arundinacea** (Kunth) Standl. & Steyerm., stat. nov. *S. arundinacea* Kunth, Enum. Pl. 2: 347. 1837.—This differs from *S. latifolia* only in the color of the achenes, a character that can scarcely be of specific significance.

COMMELINACEAE

Campelia Standleyi Steyermark, sp. nov.—Herba perennis 60–100 cm. alta, caule sparse denseve sericeo; folia caulina late oblanceolata vel oblongo-elliptica 9–25 cm. longa 2.5–6 cm. lata, acuminata vel caudato-acuminata, basin versus sensim angustata, parte basilari petioliformi 1–2 cm. longa, supra glabra, subtus dense sericea; vaginae laxae membranaceae 1.3–2.5 cm. longae, sparse vel dense sericeae, marginibus ciliolatis; pedunculi terminales axillaresque, breves vel elongati, erecto-adscendentes, 1–15 cm. longi, dense sericei; bracteae ad basin inflorescentiae 2, reductae et spathiformes, ovatae, abrupte caudato-acuminatae, basi lata subcordatae vel rotundatae, subtus dense breviter sericeae, 1–2 cm. longae; pedicelli breves, bracteolis conspicuis scariosis 7–10 mm. longis; sepala 4.5–5 mm. longa firme membranacea; petala pallide lilacina vel alba; semina pallide brunnescentia 2.3–3 mm. longa 1.5–2 mm. lata, convolute et non profunde rugosa.—Guatemala: Dept. San Marcos: Slopes above Finca El Porvenir, on "Todos Santos Chiquitos," lower southern slopes of Volcán de Tajumulco, alt. 1,300–1,500 meters, March, 1940, *Julian A. Steyermark* 37187 (type in Herb. Field Mus.); also Nos. 37211 and 37181, from the same locality. Wet forest, Finca Vergel, near Rodeo, 900 meters, March, 1939, *Standley* 68971.

In its 3-bracteate inflorescence this differs conspicuously from *C. hirsuta* Standl. and *C. Zanonia* (L.) HBK. The largest of the bracts in *C. Standleyi* is 8–11 cm. long and 3–4.5 wide, which is much larger than the largest ones in *C. Zanonia*, which are only 1.5–8 cm. long and 0.8–2.5 cm. wide. The peduncles in *C. Standleyi* are much more bracteate, the inflorescence is more densely flowered, and the sericeous type of pubescence on peduncles, upper portion of stems, leaves, and sheaths is not found in the other two species. In addition, the bractlets of *C. Standleyi* are larger than in the other species.

Commelina erecta L. var. **angustifolia** (Michx.) Fernald, forma **cana** Standl. & Steyerm., f. nov.—A varietate *angustifolia* differt petalis albis.—Guatemala: Dept. Zacapa: Along railroad

between La Fragua and Estanzuela, alt. 200 meters, October 5, 1939, *Julian A. Steyermark* 29136 (type in Herb. Field Mus.).

This white-flowered form is most closely related to *C. erecta* L. var. *angustifolia* (Michx.) Fern. as defined by Fernald (Rhodora 42: 439. 1940). It was to be expected that albino forms should appear among the different varieties of *C. erecta* segregated by Professor Fernald.

Commelina erecta L. forma **candida** Standl. & Steyerm., f. nov.—A typo differt petalis albis.—Guatemala: Dept. Zacapa: Shade of wooded slopes, along railroad, between Zacapa and Santa Marta, alt. 200 meters, October 7, 1939, *Julian A. Steyermark* 29267 (type in Herb. Field Mus.).—Mexico: Chihuahua: Canyon bottom, Guasaremos, Río Mayo, August 20, 1936, *H. S. Gentry* 2403; cespitose, stems weak and recumbent, as long as a meter; flowers white.

This form differs from typical *C. erecta* L. as defined by Fernald (Rhodora 42: 435–441. 1940) in the white instead of blue petals. On account of the long white-villous pubescence at the base of the spathes and the large, lanceolate or broadly ovate-lanceolate main leaves, it is most closely related to *C. erecta* forma *intercursa* Fernald (Rhodora 42: 439. 1940).

Commelina erecta var. **angustifolia,** forma **villosa** (Clarke) Standl. & Steyerm., comb. nov.—*Commelina virginica δ villosa* C. B. Clarke in DC. Monogr. Phan. 3: 183. 1881. *Commelina elegans* var. *hirsuta* Standl. Field Mus. Bot. 8: 136. 1930.

Commelina robusta Kunth, forma **vestita** (Clarke) Standl. & Steyerm., comb. nov.—*Commelina monticola* Seub. in Mart. Fl. Bras. 3, pt. 1: 264. 1855. *C. monticola* var. *vestita* C. B. Clarke in DC. Monogr. Phan. 3: 162. 1882.

Commelina Standleyi Steyermark, sp. nov.—Perennis herbacea, caulibus erectis sparse foliatis 70–80 cm. altis, inferne glabratis, superne scaberulis; folia linearia 7–13 cm. longa 2.5–4.5 mm. lata acuminata, basi vix angustata, utrinque dense scaberula, marginibus scaberulo-ciliatis pallidis incrassatis; vaginae inferiores et medianae 2.2–4 cm. longae 2.5–3 mm. latae, hirsutulae vel glabratae, margine densius albo-ciliato; pedunculi terminales 1–2.5 cm. longi scaberulo-hirtelli; spathae falcato-ovatae longiacuminatae, 2–2.5 cm. longae 1–1.3 cm. altae, scaberulo-hirtellae, marginibus incrassatis scaberulo-ciliatis; flores caerulei.—Guatemala: Dept. Zacapa: Pine-covered

slopes, Sierra de las Minas along trail between Río Hondo and summit of mountain at Finca Alejandría, alt. 1,000–1,500 meters, October, 1939, *Julian A. Steyermark* 29644 (type in Herb. Field Mus.).

Commelina Standleyi is related to *C. erecta* var. *hamipila* (Wright) Fernald and to some forms of *C. scabra* Benth. in its narrow leaves, but it is amply distinct from both those species. From *C. erecta* var. *hamipila* it is distinguished at once by its ciliate and longer sheaths and by its narrower ciliate leaves, which are scabrous on both sides. From *C. scabra* it differs principally in its closed instead of open sheaths, and in the narrower leaves, which are not undulate on the margins as in *C. scabra*.

Tinantia erecta (Jacq.) Schlecht. forma **puberula** Standl. & Steyerm., f. nov.—Internodii superiores et medii caulis ubique minute pubescentes; caetera formae typicae speciei omnino similis.—Mexico: Chihuahua: Moist canyon bottom, oak-pine forest, Sierra Canelo, Río Mayo, August, 1936, *H. S. Gentry* 2525 (type in Herb. Field Mus.); flowers blue; upper stamens with yellow hairs, the lower ones with blue hairs. Guerrero: Río Balsas, August, 1910, *C. R. Orcutt* 4185. Puebla: Vicinity of San Luis Tultitlanapa, near Oaxaca, August, 1908, *C. A. Purpus* 3071.

In typical *T. erecta* the upper and middle portions of the stem are marked with two longitudinal lines of pubescence, but in f. *puberula* these portions are finely pubescent over the whole surface. From *T. macrophylla* Wats. this form differs in the glandular-pubescent sepals, the sepals in that species being eglandular and finely pubescent over the whole surface.

Tinantia leiocalyx C. B. Clarke, forma **glabra** Standl. & Steyerm., f. nov.—Caules glabri vel sparse pubescentes; folia supra pilis paucis tenuibus prope apicem exceptis glabra, subtus vulgo glabra, supra secus margines minute puberula, ciliolata, inferne in partem petioliformem usque 4 cm. longam angustata; vaginae longiciliatae glabrae vel sparse puberulae; pedunculi glabri vel puberuli; sepala glabra 8–11 mm. longa, apice plus minusve angustata.—Mexico: Veracruz: On rocks, El Fortín, September, 1934, *C. A. Purpus* 16201 (type in Herb. Field Mus.). Sinaloa, without locality, *J. G. Ortega* 6719.—Guatemala: Dept. Guatemala, in 1939, *Ignacio Aguilar* 118.

This differs from typical *T. leiocalyx* in having glabrous or sparsely puberulent instead of conspicuously retrorse-pubescent

stems, and in having the upper leaf surface almost glabrous rather than densely and finely puberulent.

Tinantia longipedunculata Standl. & Steyerm., sp. nov.—Perennis, caulibus erectis 30–50 cm. altis 3–4 mm. crassis, glabris vel sparse antrorso-puberulis; folia membranacea supra sparse denseve adpresso-pilosa, subtus glabrata vel sparse adpresso-puberula, dense ciliolata, 7–12 cm. longa 3–4.5 cm. lata inferne in partem petioliformem 1–3 cm. longam angustata; vagina dilatata membranacea laxe ciliata, glabrata vel sparse adpresso-pubescens, 4–8 mm. longa 3–8 mm. lata; pedunculi graciles 5–10 cm. longi minute antrorso-pubescentes, simpliciter racemosi vel apice bifidi, 4–14-flori, inflorescentia 2–5 cm. longa 3–4 cm. lata, bracteis parvis vix evolutis ca. 1 mm. longis; pedicelli patentes vel adscendentes 7–10 mm. longi, minute puberuli vel glabrati; sepala glabra 8–9 mm. longa, apicem obtusum versus angustata; capsula 9 mm. longa 5 mm. lata.—Guatemala: Dept. Escuintla: Santa Lucía, alt. 300 meters, January, 1894, *Heyde & Lux* 6392 (type in Herb. Field Mus.).—Costa Rica: Guanacaste, in forest, alt. 10 meters, June, 1925, *H. E. Stork* 2770.—Mexico: Sonora: In forest, San Bernardo, Río Mayo, August, 1935, *H. S. Gentry* 1655. Jalisco: Damp places in woods, Tuxpán, Hacienda del Conejo, alt. 20 meters, November, 1926, *Ynes Mexia* 1072. Without locality, *Sessé & Mociño* 4996.

Related to *T. leiocalyx* C. B. Clarke, and differing principally in the longer peduncles, which are curved or somewhat sigmoid rather than strictly erect. The sepals of *T. leiocalyx* are usually longer than those of *T. longipedunculata.*

Tinantia Standleyi Steyermark, sp. nov.—Perennis, caulibus crassis erectis 1 m. altis glabris vel glabratis; folia supra sparse denseve minute pubescentia, subtus glabrata vel dense pubescentia, ciliata, abrupte acuminata, subsessilia vel sensim basi in partem petioliformem 1–2.5 cm. longam angustata; vagina membranacea glabra vel sparse villosula 1.5–2.5 cm. longa 1–2 cm. lata; pedunculi dense glanduloso-villosi apice 2–6-fidi, 16–100-flori, vulgo densiflori, inflorescentia 6–13 cm. longa 5–14 cm. lata; bracteae bene evolutae patentes lanceolatae vel ovatae acutae vel acuminatae dense glanduloso-villosae; sepala subobtusa dense glanduloso-villosa; petala 1 cm. longa; stylus barbatus; capsula 10–13 mm. longa 4 mm. lata; semina grosse rugosa 2.5–3 mm. longa 2.5 mm. lata.—Guatemala: Dept. Quezaltenango: Open moist thickets along stream, lower southern slopes of Volcán de Santa María, between Santa María de Jesús and

Calahuaché, alt. 1,300–1,500 meters, January, 1940, *Julian A. Steyermark* 33605 (type in Herb. Field Mus.). Above Mujuliá, damp dense mixed forest on white sand slopes, 1,800 meters, February, 1941, *Standley* 85496. San Marcos: Finca El Porvenir, Volcán de Tajumulco, 1,300–1,500 meters, *Steyermark* 37502. Dept. Chiquimula: Volcán de Ipala, 900–1,500 meters, *Steyermark* 30488. Dept. Sacatepéquez: Near Las Lajas, 1,200 meters, *R. P. Strong* 64.—Costa Rica: Las Nubes, 1,800 meters, *P. H. Allen* 710. Region of Zarcero, 1,500 meters, *Austin Smith* A633, H30.

This has been confused with *T. erecta* (Jacq.) Schlecht., from which it may be distinguished by the non-ciliate sheaths, long peduncles, stouter, more luxuriant habit, larger and differently shaped leaves, and larger sepals.

Tradescantia aguensis Standl. & Steyerm., sp. nov.—Herba perennis, caule erecto 50 cm. alto ramoso patenti-villoso, pilis 1–2 mm. longis; folia lanceolata vel oblongo-lanceolata 4–6.5 cm. longa 1–1.5 cm. lata acuminata, basi subaequaliter cuneata, supra sparse pilosa, ciliata; vaginae tenues 4–5 mm. longae 2–5 mm. latae villosae ciliatae; bracteae 2 inaequales lanceolatae 2–4 cm. longae 0.4–1.5 cm. latae; inflorescentiae terminales et axillares longipedunculatae, umbellis 3–4-floris, pedicellis patentibus vel reflexis filiformibus glabris vel glabratis 4–11 mm. longis; sepala tenuia scarioso-marginata 2–3 mm. longa lanceolato-oblonga acuta glabra; petala pallide caerulea 2.5 mm. longa; filamenta 1.5 mm. longa medio barbata; capsula 3–3.5 mm. longa, seminibus 5–6 fusco-brunneis inaequaliter sulcatis 1.25 mm. longis 1 mm. latis.—Guatemala: Dept. Sacatepéquez: Moist shaded bank, slopes of Volcán de Agua, north of Santa María de Jesús, alt. 1,800–2,100 meters, December, 1938, *Paul C. Standley* 59358 (type in Herb. Field Mus.).

This appears to be related to *T. geniculata* Jacq., from which it differs in the spreading pubescence of the stems, simple umbels, deflexed or spreading pedicels, more pubescent sheaths, glabrous sepals and pedicels, and the geminate bracts at the top of the stem. It is related also to *T. pulchella* HBK., from which it differs principally in its pubescence and longer pedicels.

Tradescantia disgrega Kunth, forma **glandulosa** Standl. & Steyerm., f. nov.—A forma typica speciei differt pedunculis glabris, sepalis 5–6 mm. longis longe glanduloso-pilosis.—Guatemala: Dept. Zacapa: Pine-covered slopes, Sierra de las Minas, along trail between Río Hondo and summit of mountain at Finca Alejandría, alt. 1,000–

1,500 meters, October, 1939, *Julian A. Steyermark* 29751 (type in Herb. Field Mus.). Dept. Chimaltenango: Finca La Alameda, 1,800 meters, November, 1936, *John R. Johnston* 379.

In this form the peduncle is quite glabrous; in typical *T. disgrega* it is pubescent along one side. The sepals are longer than in typical *T. disgrega* and the gland-tipped hairs of the sepals are longer than those of the typical form.

Tradescantia disgrega Kunth, forma **pubescens** Standl. & Steyerm., f. nov.—A forma typica speciei differt caulibus foliisque villosis.—Guatemala: Dept. Guatemala: At 1,085 meters, October, 1928, *Jesús Morales R.* 1106 (type in Herb. Field Mus.).

Tradescantia guatemalensis C. B. Clarke, forma **alba** Standl. & Steyerm., f. nov.—A typo differt petalis albis.—Guatemala: Dept. Sacatepéquez: In cafetal, near Antigua, alt. 1,500–1,600 meters, November, 1938–February, 1939, *Paul C. Standley* 58025 (type in Herb. Field Mus.). Damp thicket, barranco above Dueñas, alt. 1,590–1,800 meters, January, 1939, *Standley* 63210.

This form differs from typical *T. guatemalensis* in its white instead of blue petals.

Tradescantia Standleyi Steyermark, sp. nov.—Perennis, caulibus simplicibus vel superne ramosis suberectis crassis 90–120 cm. altis, ubique dense pilis brunnescentibus patentibus usque 3 mm. longis pilosis; folia tenuia, caulinis principalibus 12–18 cm. longis 5–6 cm. latis, oblongis usque ovato-ellipticis, acutis, basin versus angustatis, superioribus ovatis, basi late rotundatis vel subcordatis atque amplexicaulibus, utrinque dense pilis brevibus vel longis hirsutulis; vaginae 10–15 mm. longae 7–12 mm. latae pilis brunneis hirsutae, hirsuto-ciliatae, apice oblique truncatae; pedunculi terminales 2.5–6 cm. longi pilis patentibus brunnescentibus dense hirsuti; inflorescentia umbellata, umbellis paucifloris bracteis 2 spathiformibus vel subfoliaceis ovatis vel orbiculari-ovatis subaequalibus 2–3 cm. longis fulcratis, bracteis utrinque dense hirsutulis; pedicelli 9 mm. longi post anthesin recurvi dense villosuli; sepala ovata subobtusa, 3.5–5 mm. longa 2.5–3 mm. lata, sepalorum 2 glabris vel sparse prope basin pilosis, tertio dense brunneo-villoso; petala lilacina; capsula 4 mm. alta, seminibus 6 griseo-brunneis 1.5–2 mm. longis minute rugulosis.—Guatemala: Dept. Chiquimula: Cloud forest on summit of Montaña Nonojá, east of Camotán, alt. 1,800 meters,

November, 1939, *Julian A. Steyermark* 31696 (type in Herb. Field Mus.).

Somewhat resembling *T. belizensis* Standl., but distinguished at once from that by the spreading pubescence of much longer hairs, and by the larger leaves. It is distinguished from other local species by its spreading pubescence, large leaves, and pedunculate umbels.

AMARYLLIDACEAE

Pancratium guatemalense Standl. & Steyerm., sp. nov.—Bulbi tunicati subglobosi vel late ovoidei 10–12 cm. diam.; folia ad anthesin 15–16 plerumque disticha subtus pallide viridia, inferne sensim in petiolum marginatum angustata, 48–90 cm. longa late elliptico-oblonga vel late oblanceolata, 11–19 cm. lata, parte petiolari 15–23 cm. longa 1–3.5 cm. lata, apice abrupte caudata; pedunculus 75–100 cm. altus, floribus ca. 20 sessilibus; spathae valvae membranaceae cuspidato-deltoideae ad anthesin reflexae; flores odori 30–38 cm. longi, tubo 16–20 cm. longo 7 mm. crasso; perianthii segmenta alba superne viridescentia lineari-lanceolata recurva et torta, 10–12 cm. longa 8 mm. lata, sensim acuta, apice ipso subtereti et involuto; cupula staminalis alba tenuiter membranacea infundibuliformis 2 cm. longa dentata, dentibus 7–8 mm. longis caudato-triangularibus; filamenta alba, superne intense viridia, 6 cm. longa; antherae lineares luteae 2.5 cm. longae; stylus 25 cm. longus; ovarium oblongum 2.5–3 cm. longum obtuse angulatum; ovula in quoque loculo 4–5.—Guatemala: Dept. Izabal: Along stream near waterfall between Escobas and Montaña Escobas, across the bay from Puerto Barrios, at or near sea level, April 13, 1940, *Julian A. Steyermark* 39288 (sterile specimen). Flowering material, from bulbs from this locality, grown at Garfield Park Conservatory, Chicago, flowering in November, 1941, *Steyermark* 39865 (type in Herb. Field Mus.). Several additional collections of the plant have been made in Guatemala more recently.

This is one of the showiest species of the genus. We are interpreting *Pancratium* here as including *Hymenocallis*. The two have been separated by many authors upon the basis of the number of ovules in the ovary cells, and upon continental distribution. The ovule number is not a constant character, and geographic distribution alone has been admitted by but few botanists as being a distinctive generic character. *P. guatemalense* appears to be most closely related to *P. undulatum* HBK., but differs from that in its much larger anthers, longer perianth segments, and abruptly caudate

rather than acute leaves. From the common *P. littorale* Jacq. of Central America it is distinguished by its broad petiolate leaves.

Pancratium Skinnerianum (Herb.) Standl. & Steyerm., comb. nov. *Hymenocallis Skinneriana* Herb. Bot. Reg. 1843: Misc. 45. 1843.

IRIDACEAE

Sisyrinchium guatemalense (J. G. Baker) Standl. & Steyerm., stat. nov. *Sisyrinchium alatum* var. *guatemalense* J. G. Baker, Handb. Irid. 130. 1892.

MARANTACEAE

Calathea coccinea Standl. & Steyerm., sp. nov.—Herba, radicibus filipendulis, partibus tuberosis napiformibus 2.3–2.7 cm. longis 1–1.2 cm. latis; folia ad anthesin deficientia; folia juvenilia subtus sparse minute puberula; spica pedunculata oblonga 3.5–5 cm. longa 1.5–2 cm. crassa, pedunculo erecto gracili glabro 32–33 cm. longo 1–1.5 mm. crasso; bracteae 7–8 rubrae subdistichae vix imbricatae rhombeo-ovatae, abrupte acuminatae, acumine triangulari ca. 1.5 mm. longo, insigniter multistriatae, glabrae vel glabratae, late scariosae, 10–11 mm. longae 7–9 mm. latae, 4–6-florae; bracteolae 7, scariosae, extimis 8–9 mm. longis 3.5–4.5 mm. latis, elliptico-ovatis, subobtusis; ovarium glabrum 3-loculare; sepala elliptico-oblonga vel oblongo-oblanceolata subobtusa tenuiter membranacea, 10 mm. longa 3–3.2 mm. lata, 5-nervia glabra; corolla glabra coccinea, ca. 3 cm. longa, tubo hypocrateriformi-cylindraceo 20–22 mm. longo, basi 1.5 mm. crasso, fauce 3 mm. lato, lobis obliquo-lanceolatis acutis 11–13 mm. longis 2.5–3 mm. latis; stamen elliptico-oblongum subcompressum fere 3 mm. longum, subexsertum; staminodium exterius 10–12 mm. longum late obliqueque rhombico-obovatum.—Guatemala: Dept. San Marcos: Wooded rocky slopes above Finca El Porvenir, along Río Cabús, southern slopes of Volcán de Tajumulco, alt. 1,300–1,500 meters, March, 1940, *Julian A. Steyermark* 37945 (type in Herb. Field Mus.).

Unfortunately this species is known only from imperfect and unsatisfactory material, but it appears well marked by the perianth, which is scarlet throughout. In general appearance it simulates *C. cyclophora* Baker, but in that the crowded bracts are minutely pilosulous. *C. coccinea* seems to belong to subgenus *Eucalathea*, as defined by Schumann.

ULMACEAE

Trema micrantha (L.) Blume, var. **floridana** (Britton) Standl. & Steyerm., stat. nov. *T. floridana* Britton ex Small, Fl. Southeast. U. S. 366, 1329. 1903.

Trema micrantha (L.) Blume, var. **strigillosa** (Lundell) Standl. & Steyerm., stat. nov. *T. strigillosa* Lundell, Phytologia 1: 337. 1939.

MORACEAE

Brosimum panamense (Pittier) Standl. & Steyerm., comb. nov. *Piratinera panamensis* Pittier, Contr. U. S. Nat. Herb. 20: 100. *pl. 7.* 1918.

Dorstenia Contrajerva L. var. **tenuiloba** (Blake) Standl. & Steyerm., stat. nov. *D. Contrajerva* subsp. *tenuiloba* Blake, Contr. U. S. Nat. Herb. 24: 2. *pl. 1.* 1922.

LORANTHACEAE

Oryctanthus guatemalensis (Standl.) Standl. & Steyerm., comb. nov. *Struthanthus guatemalensis* Standl. Field Mus. Bot. 17: 237. 1937.

Phoradendron Aguilarii Standl. & Steyerm., sp. nov.—*Aequitoriales-Robustissimae.* Frutex parasiticus saepe dense ramosus glaber in sicco aureo-brunnescens, ramis crassis teretibus ad nodos plus minusve dilatatis et compressis, cataphyllis tantum basalibus; folia crasse coriacea crasse breviterque petiolata oblongo-oblanceolata 4–8 cm. longa 1–1.5 cm. lata supra mediam latissima, apice anguste rotundata vel obtusissima, basin versus sensim attenuata, basinervia, nervis inconspicuis non elevatis, costa obscura percurrente; spicae floriferae fasciculatae subsessiles, fructiferae vix 2 cm. longae, articulis 3–4 crassis vulgo 6-floris, squamis minute ciliatis; sepala acuta inflexa.—Guatemala: Dept. Jutiapa: On *Quercus*, Volcán de Suchitán, northwest of Asunción Mita, alt. 1,000–2,050 meters, November 18, 1939, *Julian A. Steyermark* 31889 (type in Herb. Field Mus.). Dept. Guatemala: Without definite locality, *José Ignacio Aguilar* 414. Dept. Chimaltenango: On *Quercus*, near San Martín Jilotepeque, 1,800 meters, *Standley* 64379. Dept. Quiché: Barranco south of Chichicastenango, 1,850 meters, *Standley* 62410.

A relative of *P. robustissimum* Eichler, but all the specimens at hand are quite uniform, and differ from that species in their much smaller and narrower leaves.

Phoradendron huehuetecum Standl. & Steyerm., sp. nov.—Frutex parasiticus ramosus glaber in sicco lutescenti-brunnescens 30 cm. altus et ultra, ramis teretibus vel subteretibus subgracilibus ad nodos non dilatatis, cataphyllis tantum basalibus brevibus; folia ca. 6 mm. longe petiolata modice coriacea lanceolata interdum subfalcata vulgo 4–7 cm. longa atque 1–1.5 cm. lata, apicem obtusum versus sensim longiuscule attenuata, basi attenuata, palmatim 5-nervia, nervis tenerrimis utrinque manifestis et prominulis; spicae adultae non visae, juveniles sessiles crassae 1.5 cm. longae 2–3-articulatae pauciflorae, floribus 4-seriatis.—Guatemala: Dept. Huehuetenango, on *Quercus*, near Táchique, east of Huehuetenango, alt. 1,900 meters, January, 1941, *Paul C. Standley* 82597 (type in Herb. Field Mus.).

Perhaps related to *P. nervosum* Oliver, but very different in appearance because of its much smaller leaves.

Phoradendron Treleaseanum Standl. & Steyerm., sp. nov.—Frutex ramosus, ramis crassis teretibus ubique dense minute puberulis, cataphyllis tantum basalibus subtruncatis puberulis; folia sessilia anguste oblonga 3.5–5 cm. longa 1–1.5 cm. lata obtusissima, basi breviter angustata, basi ipsa lata, utrinque minute puberula atque granulosa, crasse coriacea rigida, subtus paullo pallidiora, basinervia, nervis occultis; spicae vix ultra 1.5 cm. longae crassissimae subsessiles fasciculatae dense puberulae, articulis 1–2 et 8–10-floris, floribus 4-seriatis; fructus globoso-ovoideus 4 mm. longus densissime puberulus; sepala aperta.—Guatemala: Dept. Baja Verapaz, Sierra de las Minas, opposite El Rancho (El Progreso), alt. 700 meters, January, 1908, *W. A. Kellerman* 7630 (type in Herb. Field Mus.).

An unusually well-marked species, noteworthy for the small, very thick and hard, obtuse leaves, and for the fine dense pubescence covering all parts. The only other Guatemalan species with pubescence is *P. velutinum* Nutt., which has conspicuously petiolate, long-attenuate, much thinner leaves.

Psittacanthus mayanus Standl. & Steyerm., sp. nov.—Frutex glaber ramosus 30 cm. altus et ultra, ramis crassis continuis plus minusve compressis subacute quadrangularibus, vetustioribus ochraceis subteretibus; folia opposita vel superiora subopposita, breviter crasseque petiolata in sicco coriacea, falcato-lanceolata usque oblonga vel oblongo-elliptica 4.5–7 cm. longa 1–3 cm. lata, apicem acutum versus attenuata vel saepius apice obtusa vel anguste rotundata, basi acuta vel attenuata, 3–5-plinervia, nervis utrinque prominenti-

bus; flores corymbosi, corymbis vulgo dense multifloris, interdum laxe paucifloris, pedicellis umbellatim ternatis 10–13 mm. longis rectis; bracteolae cupulares 1.5 mm. longae; calyx campanulatus subtruncatus 3 mm. latus et fere aequilongus; corolla 3–5 cm. longa coccinea in alabastro linearis subrecta apice non dilatata obtusa glabra, petalis ad anthesin fere filiformibus revolutis; antherae 2–2.5 mm. longae; bacca ovalis 6 mm. longa calyce persistente coronata.—British Honduras: On *Bursera Simaruba*, Santa Rita, September 14, 1933, *Percy Gentle* 116 (type in Herb. Field Mus.).—Honduras: Concepción, Dept. Yoro, *J. B. Edwards* P651.—Mexico: Campeche: Palizada, *E. Matuda* 3898. Yucatan: Without definite locality, *G. F. Gaumer* 755. Pixila, *Gaumer* 23213. Chichén Itzá, *W. C. Steere* 1384. Muna, *Steere* 2150, 2158.

This probably has a still wider range in Mexico. It is possible that some earlier name based upon Mexican material can be found for the species, but we have not discovered one. *P. mayanus* is related to *P. calyculatus* (DC.) Don, with which it has been confused, but in that the corolla buds are conspicuously thickened at the apex and acute, and the corolla is outcurved rather than straight in bud. The leaves of *P. mayanus* average substantially smaller than those of *P. calyculatus*. *P. mayanus* has been reported from Yucatan as *P. americanus* (L.) Mart., but that is a species probably confined to the Lesser Antilles and northern South America.

Struthanthus brachybotrys Standl. & Steyerm., sp. nov.—Frutex glaber ramosus erectus vel dependens, ramis rectis non radices emittentibus, teretibus striatis ochraceis vel griseis, internodiis brevibus; folia inter minora sessilia vel subsessilia tenuiter coriacea in sicco pallide brunnescentia vel rare fusca, lanceolato-oblonga, ovato-oblonga vel oblongo-elliptica, vulgo prope mediam latissima, 4–7.5 cm. longa 1.2–3 cm. lata acuta vel subobtusa, basi cuneato-angustata, nervis lateralibus teneris utrinque prominentibus angulo angusto adscendentibus, subtus interdum obsoletis; inflorescentiae solitariae pedunculo 7–8 mm. longo incluso 1.5–2 cm. longae fere capituliformes dense pauciflorae, ternationibus fere sessilibus, pedunculis brevissimis crassis, floribus sessilibus congestis viridibus; calyx paullo ultra 1 mm. latus subtruncatus laevis; corolla in alabastro clavato-obovata superne sensim dilatata, 4 mm. longa, extus laevis, tubo crasso; fructus ellipsoideus aurantiacus 6–8 mm. longus basi et apice rotundatus.—Guatemala: Dept. Huehuetenango: Pendent on *Quercus*, Río Pucal about 14 km. south of Huehuetenango, alt. about 1,780 meters, January, 1941, *Paul C. Standley* 82430 (type

in Herb. Field Mus.); also no. 82274; February, 1939, *Standley* 65796. Dept. Guatemala, Lago de Amatitlán, alt. 1,200 meters, *Kellerman* 5043.

It is possible that this may be *S. Oerstedii* (Oliver) Standl., whose type was collected at Granada, Nicaragua. We have seen no authentic representation of that species, and the too brief description does not agree satisfactorily with the Guatemalan plant.

Struthanthus Johnstonii Standl. & Steyerm., sp. nov.—Frutex parasiticus glaber ramosus suberectus vel dependens, ramis crassis radices aereas non emittentibus subteretibus ferrugineis, internodiis foliis brevioribus; folia breviter petiolata crasse coriacea, petiolo crasso usque 7 mm. longo; lamina ovata, oblongo-ovata vel elliptico-ovata vulgo 5–9 cm. longa atque 2.5–4 cm. lata, acuta vel breviter acuminata, apice ipso acuto, basi subito in petiolum contracta et obtusa vel subrotundata, in sicco fusco-viridis, supra plus minusve rugulosa, subtus pallidior dense minuteque granulosa; inflorescentiae femineae sessiles pauciflorae capituliformes, floribus arcte sessilibus; calyx glaucescens truncatus 2 mm. latus laevis glaber; fructus oblongus vel ellipsoideus 7–12 mm. longus 4–6 mm. crassus arcte sessilis, apice late rotundatus vel subtruncatus.—Guatemala: Dept. Huehuetenango: On *Quercus*, west of Aguacatán, on the road to Huehuetenango, at km. 12, January 2, 1941, *John R. Johnston* 1887 (type in Herb. Field Mus.). Aguacatán road, 10 km. east of Huehuetenango, 1,900 meters, January, 1941, *Standley* 82158. Along road 13 km. west of Huehuetenango, near Puente de Xinaxó, *Standley* 81544. Vicinity of Táchique, east of Huehuetenango, 1,900 meters, *Standley* 82602.

Noteworthy for the small few-flowered head-like pistillate inflorescences.

Struthanthus papillosus Standl. & Steyerm., sp. nov.—Frutex ramosus dependens, ramis gracilibus saepe multo elongatis, teretibus, ferrugineis vel griseis, vulgo radices aereas emittentibus, internodiis plerumque elongatis; folia subcoriacea in sicco fuscescentia graciliter 5–10 mm. longe petiolata lanceolata usque ovata vel oblongo-ovata, vulgo 6–8 cm. longa et 2–3.5 cm. lata, subabrupte acuta vel longiuscule acuminata, apice ipso acutissimo, basi subito contracta et rotundata vel obtusa, penninervia, subtus pallidiora, nervis vulgo conspicuis teneris, venis arcte reticulatis interdum prominulis; inflorescentiae ad axillas solitariae vel saepius fasciculatae plerumque 6.5 cm. longae vel breviores folia aequantes vel eis breviores, breviter

pedunculatae, simpliciter racemosae interruptae graciles, ramis plus minusve minute albido-papillosis, ternationibus graciliter ca. 3 mm. longe pedunculatis, floribus viridibus sessilibus; calyx paullo ultra 1 mm. latus dense minuteque albido-papillosus; corolla in alabastro anguste cylindracea 4 mm. longa, apice non vel vix dilatata, petalis linearibus; stamina petala subaequantia.—Guatemala: Dept. Alta Verapaz: Parasitic on *Erythrina*, Cobán, alt. 1,350 meters, June, 1906, *H. von Tuerckheim* II.1240 (type in Herb. Field Mus.).

There are referred here numerous other collections from Alta Verapaz and Baja Verapaz. It is somewhat questionable whether this is a good species, but especially in the type collection the papillosity on the inflorescence is conspicuous and distinctive. Whether this constitutes a valid specific character remains to be determined when the genus is monographed critically.

NYCTAGINACEAE

Bougainvillea Buttiana Holttum & Standl., sp. nov.—Frutex scandens elatus aculeatus, aculeis rectis divaricatis crassiusculis usque 1 cm. longis, ramis floriferis saepe inermibus, ramulis novellis sparse pilis brevibus arcte adpressis pilosulis vel interdum fere glabris, adultis glabris, internodiis brevibus; folia majuscula graciliter petiolata herbacea, petiolo vulgo 1.5–3.5 cm. longo sparse adpresso-pilosulo vel fere glabro; lamina ovato-rotundata vel late elliptico-ovata 13 cm. longa et 10 cm. lata vel saepius minor, apice subrotundata et abrupte contracto-acuminata, basi saepius truncata vel late rotundata, interdum obtusa, in statu adulto fere glabra sed primo sparse pilis brevibus subadpressis laxis conspersa; inflorescentiae pauciflorae laxae, pedunculis gracillimis glabris vel glabratis ca. 1 cm. longis; bracteae floriferae rotundato-ellipticae vel ovali-orbiculares sanguineae 3–4 cm. longae et 2.5–3.5 cm. latae, apice rotundatae vel late obtusae, basi late rotundatae et anguste breviter cordatae, glabrae vel tantum ad costam sparse minute pilosulae, reticulato-venosae, nervis lateralibus e costa angulo recto abeuntibus; perianthia 1.5–2 cm. longa sparse minute puberula vel pilosula vel fere glabra; anthocarpia matura ca. 12 mm. longa et 2–2.5 mm. lata striato-costata basi et apice angustata.—Federated Malay States: Cultivated in the Botanic Gardens, Singapore, as *Bougainvillea* Mrs. Butt, purchased from L. R. Russell, Richmond, in 1923, July 1, 1938, *R.E. Holttum* (type in Herb. Field Mus.).—British Honduras: San Antonio, Corozal District, March, 1933, *Lundell* 1900.—Guatemala: Antigua, Dept. Sacatepéquez, 1938–39, *Standley* 83058.—

Honduras: Lancetilla, Dept. Atlántida, in 1929, *A. M. Chickering* 193.—Costa Rica: San José, in 1932, *Manuel Valerio* 191.—Peru: La Victoria, Río Amazonas, Dept. Loreto, in 1929, *Llewelyn Williams* 2513. Fortaleza, Dept. Loreto, in 1929, *Williams* 4324.

The proposed species, which presumably is of Brazilian origin, but in rather recent years has become well known in cultivation in many parts of the earth, has usually been considered a form of *B. glabra* Choisy, the commonest and best known of horticultural Bougainvilleas, long in cultivation in most tropical regions, to which it was carried from Brazil. Technically *B. glabra* may be separated from *B. Buttiana* by its scant pubescence, uniformly much narrower leaves, and always relatively narrower and usually acute or at least distinctly acutish bracts, which have a rather unpleasant magenta color. Horticulturally the differences are much greater, and they are discussed in the following account published by the senior author in the *M. A. H. A. Magazine* in April, 1941 (Kuala Lampur, vol. 11, no. 2):

"During the past three years I have made various enquiries about the horticultural history of the beautiful crimson Bougainvillea Mrs. Butt, now so well known in almost all parts of the tropics. The information obtained is gathered together here, and I wish to express my thanks to correspondents who have so kindly answered my questions and thus enabled me to write these notes. The story is not complete, and if any reader has further information to offer, I shall be glad to have it.

". . . I am personally satisfied that Mrs. Butt should be regarded as a species quite distinct from *Bougainvillea spectabilis* and *B. glabra*. However, this is not the place to publish a new botanical name and description. In the meantime gardeners will doubtless be quite satisfied with the name Mrs. Butt which they have known for so long.

"How long this *Bougainvillea* has been cultivated in South America is unknown. The first recorded item of history is that Mrs. R. V. Butt, of Trinidad, visiting Colombia in 1910, found a plant in a garden near Cartagena, and brought cuttings to Trinidad. It was found easy to propagate, and was soon distributed to the other West Indian Islands, though I do not know how soon the name Mrs. Butt came into general use.

"In October 1916 the U. S. Department of Agriculture recorded the introduction from British Guiana to Florida of a crimson-flowered *Bougainvillea* of which sufficient information is given to make its

identity with Mrs. Butt certain, though that name is not mentioned. But it seems that the species had been introduced to Florida at an even earlier date. I am indebted to Professor Mowry of the College of Agriculture, Gainesville, Florida, for this next item of history. Professor Mowry was informed by Mr. N. A. Reasoner, of Reasoner's Tropical Nurseries, that his father, the late Mr. E. N. Reasoner, introduced Mrs. Butt to Florida about 1912 or 1913, and that he was selling plants at $5 each for two years before he included it in his 1917 catalogue, under the name 'Crimson Lake:' this catalogue was issued towards the end of 1916, about the same time as the Department of Agriculture's importation. Professor Mowry kindly sent me a dried specimen of 'Crimson Lake,' as grown in Florida, and it is quite identical with our Mrs. Butt.

"It seems that this *Bougainvillea* did not cross the Atlantic until after the 1914–1918 war, and then it was introduced to Europe both as Mrs. Butt and as Crimson Lake. Messrs. Lemoine & Son of Nancy (France) informed me that they imported Crimson Lake from Philadelphia in 1920. About the same time Mrs. Butt traveled from the West Indies to Kew, and some years later Messrs. Lemoine obtained Mrs. Butt from an English source. They wrote to me in 1937 that they thought the two might be identical, but were not sure. The early accounts in the *Gardeners Chronicle* quoted small differences between the two; these differences were, I think, due to more or less intense coloration under exposure to stronger or weaker light, and differences in leaves due to different size of plants.

"The next item of history comes from India. Mr. Percy-Lancaster, Secretary of the Royal Agri-Horticultural Society of India, in a letter dated November 4th, 1938, informed me that a *Bougainvillea* resembling Mrs. Butt arrived in India direct from the West Indies in 1920, having been introduced by a Mr. Tomlinson of the Eastern Bengal Railway. Mr. Percy-Lancaster gave the name 'Scarlet Queen' to this plant. He writes: 'The coloured bracts are slightly darker than in Mrs. Butt but the actual flower is malformed so that instead of there being three white or cream flowers in the bracts, there are merely little bunches of anthers. In growth and foliage these plants are identical.' The original Scarlet Queen, so far as I know, has never been introduced to Malaya, but it gave rise at Madras in 1932 to a bud-sport with orange bracts which was called 'Louis Wathen;' of this, more is written below. Louis Wathen is well known in Malaya. It would be interesting to have the earlier history of Scarlet Queen, which must surely have had a cultural origin

independent of Mrs. Butt, though the two are certainly varieties of one species.

"Mrs. Butt was soon distributed from Kew to the eastern tropics and to Africa. It reached Singapore in 1923, and probably the bulk of the countless plants now in Malaya were derived from that single individual, brought here by Mr. Burkill. Now it is in every garden, and its virtues as a pot plant are known to all. It is often called Madam Butt or Clara Butt, though the latter distinguished lady has no connexion with it.

"In 1931, in the garden of Mrs. McLean of Trinidad, a plant of Mrs. Butt produced a branch with apricot-orange instead of crimson bracts. This was shown to Mr. R. O. Williams, who propagated it and named it 'Mrs. McLean.' The next year, the variety Scarlet Queen did the same thing in Madras, in the garden of Mrs. Wathen, and the orange variety so produced was named 'Louis Wathen' by Mr. B. S. Nirody, Honorary Secretary of the Madras Agri-Horticultural Society. Mr. Nirody actually said that Louis Wathen was derived from Mrs. Butt; but Mr. Percy-Lancaster, in his letter on Scarlet Queen informed me that the latter variety was concerned. This statement is borne out by the fact that Louis Wathen can be distinguished from Mrs. McLean by its imperfect flowers; I know of no other distinction between the two. To be quite accurate, Louis Wathen does occasionally have a perfect flower, which one may see as a little cream-coloured star among the orange bracts; but most of the flowers lack the white star-like end entirely, the remainder consisting of an inconspicuous group of stamens protruding from a short tube.

"Both Louis Wathen and Mrs. McLean were soon introduced to Malaya, the former at least on more than one occasion, and both are now almost as common as Mrs. Butt. I think that most people do not realize the distinction between the two varieties; I did not notice it myself till it was pointed out to me by Dr. Herklots of Hong Kong, and I know of no place where it has appeared in print.

"The orange variety of Mrs. Butt has also received other names. Messrs. L. R. Russell & Co. received an Award of Merit from the Royal Horticultural Society (London) in 1934 for 'Orange King,' the origin of which was not stated but its identity with Mrs. McLean seems to be unchallenged. Then it seems that in Florida a similar transformation of Mrs. Butt took place, and the result was known as 'Pretorius.' I have, however, no authentic information on this point and should be glad to have such if any reader can supply it.

"Mrs. Butt, like *Bougainvillea peruviana*, is evidently native of more tropical regions than the original purple Bougainvilleas, which were found in the south of Brazil, on the borders of the tropics. It has also a quite distinct habit, with its stronger, more open growth, very broad leaves, and close bunches of flowers. I need not here describe in detail its many well known qualities, but will point out two facts which have not, so far as I know, appeared in print.

"The bracts of Mrs. Butt and its derivatives turn from crimson or orange when young to purple or mauve as they get older; but the bracts of the orange varieties (var. *lateritia* and hybrids) of the older Bougainvilleas start purple when they are young and pass through red to orange when they are old. The other feature of Mrs. Butt is one of which gardeners should beware. It will not stand hard pruning back so that no leafy shoots are left. The old purple Bougainvilleas can be cut back almost to the ground, and they rise again more vigorous than before; but Mrs. Butt will not stand this rough treatment."

A communication from Mr. Holttum concerning the plant here described as a new species gives the following information derived from living plants: "I suggest that the chief distinguishing features from *B. glabra* are the broad base of the leaf (notably of the large leaves on the main branches), and the yellow pigment present in the bracts (combined of course with a purple pigment) giving the crimson, not magenta colour. The thorns are also I think straighter than those of *B. glabra*. The whole habit of the plant is different, especially the close grouping of the flowers and reduction of the leaves subtending the inflorescences, but this is difficult to define clearly so as to show the distinction from *B. glabra*."

The crimson form of *B. Buttiana* is now a common plant in Florida gardens, and is frequent in Central America, although there much less common than typical *B. glabra*. The orange forms of the species are still rather infrequent in America, so far as one may judge from scattered reports and from observation.

PORTULACACEAE

Montia calcicola Standl. & Steyerm., sp. nov.—Perennis stolones elongatos gracillimos sparse foliatos emittens, glabra, caulibus usque 10 cm. longis, prostratis vel procumbentibus simplicibus; folia omnia caulina 3–5-juga opposita, plerumque (petiolo incluso) 2–2.5 cm. longa, oblanceolata, 3–5 mm. lata, obtusa vel subacuta, basi in petiolum marginatum attenuata; flores axillares, in axillo

1–3, pedicellis usque 8 mm. longis in statu fructifero recurvis; sepala pallide viridia rotundo-obovata 1.5 mm. longa, apice rotundata, capsula breviora; petala pallide rosea sepalis aliquanto longiora; capsula subglobosa 2 mm. longa 3-valvis; semina 2–3 rufescenti-nigra 1 mm. diam. minutissime reticulata.—Guatemala: Dept. Huehuetenango: Cerro Chémal, summit of Sierra de los Cuchumatanes, in woods of *Juniperus Standleyi*, alt. 3,700–3,800 meters, August 8, 1942, *Julian A. Steyermark* 50308 (type in Herb. Field Mus.). On limestone bluffs, alpine area of Tojquiá, Sierra de los Cuchumatanes, 2,700 meters, August 5, 1942, *Steyermark* 50127.

This is referable to the genus *Montia*, as limited by Rydberg in *North American Flora*, and is the only plant of that limited group known from Central America. It is not particularly close to any of the North American species described by that author. The only other Central American species of *Montia* is the following:

Montia mexicana (Rydb.) Standl. & Steyerm., comb. nov. *Limnia mexicana* Rydb. N. Amer. Fl. 21: 309. 1832.—This has been collected several times during the past few years in the Sierra de los Cuchumatanes, Huehuetenango, Guatemala, growing in alpine areas upon limestone.

Oreobroma megarhizum (Hemsl.) Standl. & Steyerm., comb. nov. *Calandrinia megarhiza* Hemsl. Diag. Pl. Mex. 23. 1879. *Claytonia megarhiza* Kuntze, Rev. Gen. 57. 1891. *O. mexicanum* Rydb. N. Amer. Fl. 21: 326. 1932.—The Guatemalan species, rather strangely, is omitted by Rydberg in his account of the Portulacaceae in *North American Flora*.

CARYOPHYLLACEAE

Arenaria altorum Standl. & Steyerm., sp. nov.—Herba perennis adscendens, radice crassa sublignescente, caulibus pluribus gracilibus 6–14 cm. longis simplicibus vel superne pauciramosis fere ubique minutissime puberulis bisulcatis; folia remota linearia patentia subcarnosa sessilia 10–18 mm. longa vix ad 1 mm. lata, apice attenuato-acuta, glabra, prope basin ciliata; flores axillares vel subpaniculati pauci vel numerosi, pro parte terminales, pedicellis rectis usque ad 8 mm. longis minutissime et fere microscopice puberulis erectis vel suberectis; sepala 3–3.5 mm. longa glabra vel ad carinam microscopice puberula acuta vel subulato-acuminata, apicibus breviter subrecurvis, late inconspicue carinata, prope carinam viridia, mar-

ginibus albis scariosis; petala alba integra sepalis paullo longiora; stamina petala aequantia; styli 3; capsula 4 mm. longa lucida in valvulas 3 breves emarginatas fissa.—Guatemala: Dept. Jalapa: Dry open ground near Minas de Croma, Potrero Carrillo, 13 miles northeast of Jalapa, alt. 1,500–1,700 meters, December 12, 1939, *Julian A. Steyermark* 33091 (type in Herb. Field Mus.). Dept. Huehuetenango: Dry southwest-facing slopes of Sierra de los Cuchumatanes, between Chiantla and Patio de Bolas, alt. 2,100–2,500 meters, July 6, 1941, *Steyermark* 48227.

Related to *A. Bourgaei* Hemsl. of Mexico, which has generally much longer petals and very obtuse sepals.

Arenaria chiapensis Standl. & Steyerm., sp. nov.—Perennis ut videtur caespitosa et suberecta, caulibus 10–14 cm. longis simplicibus vel pauciramosis, ramis suberectis dense pilis rigidulis patentibus hispidulis, dense foliatis; folia suberecta vel valde adscendentia insigniter imbricata rigida subcoriacea lineari-lanceolata 6–10 mm. longa usque ad 2 mm. lata subulato-acuminata dense ciliata, subtus interdum praesertim in statu juvenili hispidula, marginibus cartilagineo-incrassatis, 1-nervia, costa subtus saepe retrorso-hispidula; flores axillares numerosi, pedicellis usque ad 9 mm. longis crassiusculis densissime pilis patentibus hispidulis; sepala lanceolata ca. 5.5 mm. longa subcoriacea subulato-acuminata, exteriora basi ciliata, omnia dorso saltem ad costam hispidula, costa crassiuscula elevata; petala alba 7 mm. longa vel paullo ultra integra; stamina sepala aequantia et petalis multo breviora; styli 3.—Mexico: Chiapas: In 1864–70, *Dr. Ghiesbreght* 871 (type in Herb. Field Mus.).

In general appearance much like *A. lycopodioides* Willd., and distributed as *A. decussata* Willd., a synonym of that species of Mexico and Guatemala. In *A. lycopodioides* the pubescence is closer and much less abundant, and the sepals are glabrous.

Arenaria guatemalensis Standl. & Steyerm., sp. nov.—Perennis laxe ramosa, caulibus interdum 1 m. longis et ultra et subscandentibus vel e rupibus pendentibus, pilis brevibus patentibus vel subreflexis sat dense puberulis, internodiis vulgo elongatis, saepe foliis multo longioribus; folia sessilia vel brevissime petiolata patentia herbacea lineari-lanceolata usque elliptico-lanceolata 1.5–3.5 cm. longa 2–8 mm. lata acuta, basi obtusa vel subacuta, supra dense minute puberula, subtus ad costam minute hispidula aliter glabra vel interdum puberula, 1-nervia, marginibus non incrassatis; flores axillares, pedicellis gracilibus foliis vulgo multo longioribus dense minute

puberulis; sepala ca. 5 mm. longa, exteriora lanceolata vel linearilanceolata attenuato-acuminata minute hispidula, interiora latiora ad costam tantum hispidula, marginibus scariosis albis; petala integra ca. 8 mm. longa sepalis semper longiora; stamina sepala subaequantia; styli 3; capsula 5–6 mm. longa 3-valvata, valvis profunde bilobis.—Guatemala: Dept. San Marcos: Sprawling over thickets of upper slopes, Río Vega, near San Rafael and Guatemala-Mexico boundary, Volcán de Tacaná, alt. 2,500–3,000 meters, February, 1940, *Julian A. Steyermark* 36268 (type in Herb. Field Mus.); Puente de Nahuatl-aa, near San Marcos, 2,280 meters, *Standley* 66214. Dept. Sacatepéquez: Volcán de Agua, *J. R. Johnston* 226; *Standley* 65174. Dept. Jalapa: Montaña Miramundo, 2,000–2,200 meters, *Steyermark* 32812. Dept. Chimaltenango: Santa Elena, *Johnston* 418; *Standley* 60982. Dept. Quezaltenango: Volcán de Santa María, 1,500–3,000 meters, *Steyermark* 34011.

The species is known also from Costa Rica and Panama (Volcán de Chiriquí), and probably occurs in southern Mexico. The plant has been much confused with *A. megalantha*, not only recently but by Williams in his monograph of the genus, where several distinct plants evidently are confused under his treatment of *A. megalantha*, as he himself suggests may be the case. *A. megalantha*, which grows in southern Mexico and in Guatemala, differs from *A. guatemalensis* in its broader, ovate leaves, these with much thickened and long-ciliate margins, in the denser and longer hairs of the stems, and in the long-pilose pedicels. A Mexican variant of *A. guatemalensis* is the following:

Arenaria guatemalensis var. **ensifolia** (Rohrb.) Standl. & Steyerm., comb. nov. *A. megalantha* var. *ensifolia* F. N. Williams, Journ. Linn. Soc. Bot. 33: 380. 1898. *A. lanuginosa* var. *ensifolia* Rohrb. Linnaea 37: 264. 1871–72.—This differs but little from Guatemalan plants, unless in the minute pubescence, rather large flowers, and narrow leaves.

Cerastium Juniperorum Standl. & Steyerm., sp. nov.—Ut videtur perennis, caulibus solitariis vel paucis erectis vel decumbentibus 20–35 cm. longis dense breviter pilis patentibus viscido-villosulis, internodiis plerumque foliis multo longioribus, simplicibus; folia sessilia patentia herbacea oblongo-lanceolata 2.5–3.5 cm. longa 5–8 mm. lata acuta, apice calloso-incrassato, basi obtusa, utrinque sat dense pilis brevibus patentibus pubescentia, 1-nervia; cymae terminales pauciflorae, pedicellis ut videtur rectis gracillimis

usque ad 3.5 cm. longis dense viscido-pubescentibus; sepala 7–8 mm. longa oblongo-lanceolata viridia scarioso-marginata viscido-villosula; petala alba 1 cm. longa sepalis bene longiora; capsula ignota.—Guatemala: Dept. Huehuetenango: In rocky wooded ravine under *Juniperus Standleyi*, alpine areas in vicinity of Tunimá, Sierra de los Cuchumatanes, alt. 3,400–3,500 meters, July 7, 1942, *Julian A. Steyermark* 48413 (type in Herb. Field Mus.); also no. 48389 from the same region.

Perhaps this is only an extreme form of *C. guatemalense* Standl., but in the ample material of that species now at hand the calyx is smaller, only 5 mm. long, and the cauline leaves are linear or lance-linear, and proportionately much narrower than in *C. Juniperorum*.

Drymaria minuscula Standl. & Steyerm., sp. nov.—Annua erecta 1–3 cm. alta dense a basi ramosa glabra, caulibus gracilibus teretibus pallidis; folia basalia rosulantia oblanceolato-spathulata usque ad 8 mm. longa obtusa, basin versus attenuata, foliis caulinis lineari-oblanceolatis aequilongis obtusis sessilibus, basin versus attenuatis, supremis bracteiformibus minutis; inflorescentia repetite dichotoma dense multiflora, floribus parvis brevissime pedicellatis; sepala 1.5–2 mm. longa obtusa erecta apice interdum paullo excurva obscure carinata; petala minuta vel nulla, sepalis multo breviora; stamina 5 sepalis multo breviora; stylus brevis, ramis 3 brevibus.—Guatemala: Dept. Huehuetenango: On rocky limestone outcrops under *Juniperus Standleyi*, alt. 3,700 meters, vicinity of Chémal, summit of Sierra de los Cuchumatanes, August 8, 1942, *Julian A. Steyermark* 50243 (type in Herb. Field Mus.).—Mexico: Ajusco, State of Mexico, August, 1910, *C. R. Orcutt* 3724.

Among all Mexican and Central American *Drymaria* species, this may be recognized at once by its greatly reduced size and the very dense inflorescence composed of many crowded subsessile flowers.

RANUNCULACEAE

Clematis caleoides Standl. & Steyerm., sp. nov.—Frutex scandens, in sicco saepe nigrescens, caulibus glabris, novellis sparse breviterque pilosis; folia vulgo 5–7-foliolata, foliolis longipetiolulatis, crasse chartaceis vel subcoriaceis ovatis, plerumque 6–12 cm. longis et 3.5–7.5 cm. latis, acuminatis vel acutis, basi late rotundatis vel interdum subprofunde cordatis, in toto margine denticulatis vel crenato-dentatis, dentibus utroque latere pluribus, rare subintegris, supra glabris vel tantum ad nervos pubescentibus, subtus paullo

pallidioribus, lucidis, sparse praesertim ad nervos pilosulis vel in statu adulto saepissime glabris; flores dioeci laxe cymoso-paniculati albi longipedicellati, pedicellis laxe tomentulosis; sepala elliptica vel oblongo-elliptica ca. 8 mm. longa utrinque dense sericeo-tomentosa; filamenta crassiuscula 4–5 mm. longa glabra, antheris fere 1 mm. longis.—Guatemala: Dept. Chimaltenango: In dense *Cupressus* forest, Cerro de Tecpám, region of Santa Elena, alt. 2,700 meters, December, 1938, *Paul C. Standley* 58732 (type in Herb. Field Mus.). Dept. El Progreso: Sierra de las Minas, Volcán Santa Luisa, 3,000 meters, *Steyermark* 43581. Dept. Sololá: Volcán de Santa Clara, 2,100–3,000 meters, *Steyermark* 46889. Dept. Huehuetenango: Cerro Huitz, Sierra de los Cuchumatanes, 1,500–2,600 meters, *Steyermark* 48658. Dept. San Marcos: Volcán de Tajumulco, *Steyermark* 35803, 36955; Volcán de Tacaná, 2,500–3,000 meters, *Steyermark* 36185.

Although this vine is rather widely distributed in the central and western highlands of Guatemala, we have found it in fertile state but once. It is readily recognized by its foliage, the leaflets being very lustrous, almost or quite glabrous, and with numerous small, regularly spaced teeth. Its relationship is with *C. dioica* L. and *C. grossa* Benth., the only other species known in Central America, both of which have leaflets that do not possess these characters.

CRUCIFERAE

Cardamine eremita Standl. & Steyerm., sp. nov.—Perennis omnino glabra erecta vel adscendens plus minusve caespitosa, caudice saepe laxe ramoso gracili, caulibus paucis 8–20 cm. longis pauci-foliatis; folia plerumque radicalia 2–4 cm. longa ca. 7-foliolata, foliolis vel segmentis parvis crassis lineari-oblanceolatis vel oblanceolatis 3–7 mm. longis vix ad 2.5 mm. latis, obtusis vel obtusissimis, basin versus sensim attenuatis, integris; folia caulina basalibus conformia petiolata, flore infimo vulgo basi foliaceo-bracteato; racemi pauci- vel submultiflori in statu fructifero usque 7 cm. longi, floribus interdum subsecundis, pedicellis gracilibus adscendentibus sub fructu 5–9 mm. longis; sepala oblonga 2.5 mm. longa apice rotundata albo-marginata et purpureo tincta; petala alba spathulata 5–6 mm. longa; siliquae lineares 20–27 mm. longae vix 1 mm. latae basi paullo attenuatae, apicem versus longiuscule sensim attenuatae, stylo persistente 1–1.8 mm. longo; semina pauca brunnescentia marginata.—Guatemala: Dept. Huehuetenango: Between Tojquiá and Caxín bluff, summit of Sierra de los Cuchumatanes, alt. 3,700 meters, on dry rocks on grassy slopes covered by *Pinus Montezumae* var.

rudis, August 6, 1942, *Julian A. Steyermark* 50143 (type in Herb. Field Mus.). Alpine areas of Tunimá, Sierra de los Cuchumatanes, 3,300–3,500 meters, *Steyermark* 48291, 48416.

This appears to be an isolated species, with little resemblance to any other known from Central America or Mexico. It has some resemblance to certain species of *Arabis*, such as *A. lyrata*, and the seeds are similar to those of that species, but they are just as much like those of various *Cardamine* species, and it is believed that the plant, because of its general appearance and pinnatisect leaves, is better referred to the latter genus.

Cardamine jejuna Standl. & Steyerm., sp. nov.—Annua pumila erecta e radice longa tenui, caulibus gracillimis simplicibus 1-foliatis vel nudis 3–4-floris glabris; folia radicalia 1.5–2.5 cm. petiolo incluso longa, vulgo 3-foliolata interdum 5-foliolata vel simplicia, foliolis lateralibus petiolulatis, terminali longipetiolulato, 3–6 mm. longis et aequilatis obtusis vel apice rotundatis, basi truncatis vel rotundatis integris vel saepius breviter 3-lobulatis, lobis mucronatis, foliolis subtus glabris, supra interdum hispidulis; racemi breves laxi, pedicellis insigniter inaequalibus, usque 13 mm. longis filiformibus; sepala pallide viridia obovato-ovalia 2 mm. longa apice rotundata pallido-marginata glabra; petala alba 3 mm. longa late obovato-spathulata; siliquae glabrae anguste lineares 2.5 cm. longae 0.7 mm. latae, basi breviter attenuatae, apice in rostrum fere 5 mm. longum sensim attenuatae, stylo 1.5 mm. longo. —Guatemala: Dept. Huehuetenango: Forested summit, Cerro Pixpix, above San Ildefonso Ixtahuacán, Sierra de los Cuchumatanes, alt. 2,800 meters, August 15, 1942, *Julian A. Steyermark* 50569 (type in Herb. Field Mus.).

This diminutive but normally developed plant belongs to the highly variable and perplexing group containing such species as *C. flaccida* Cham. & Schlecht. and *C. flexuosa* With. It resembles *C. flexuosa* var. *debilis* (Don) O. E. Schulz, as that is represented in the mountains of the Dominican Republic, but is erect rather than weak and prostrate or procumbent. It is probably a local species isolated on the summits of the Cuchumatanes, where so many other endemic alpine plants have been found.

Rorippa mexicana (Moc. & Sessé) Standl. & Steyerm., comb. nov. *Nasturtium mexicanum* Moc. & Sessé ex DC. Reg. Veg. Syst. 2: 193. 1821.

CAPPARIDACEAE

Crataeva Tapia L. var. **glauca** (Lundell) Standl. & Steyerm., stat. nov. *C. glauca* Lundell, Bull. Torrey Club 69: 389. 1942.

LEGUMINOSAE

Dalbergia Funera Standl., sp. nov.—Arbor 6-metralis, ramulis glabris vel glabratis; foliola 5–7 longiuscule petiolulata subcoriacea late ovalia vel suborbiculata, plerumque 3.5–6.5 cm. longa et 2–4.5 cm. lata, apice late rotundata et breviter emarginata, basi rotundata, viridia lucida glabra, venis prominentibus, subtus pallida glabra vel primo sparse breviter pilosula; racemi ut videtur pauciflori atque laxi; legumen oblongum vel spathulato-oblongum 4–5.5 cm. longum 1.5 cm. latum, apice rotundatum et apiculatum, basi acutum, breviter stipitatum, densissime brunneo-tomentulosum 1-spermum.—Salvador: Dept. Chalatenango: La Reina, November, 1928, *Salvador Calderón* 2479 (type in Herb. Field Mus.).

Sterile specimens from the Oriente of Guatemala perhaps represent the same species, which is noteworthy for its short and very broad leaflets, broadly rounded at the apex.

Inga Barbourii Standl., sp. nov.—Arbor 30-metralis, trunco 40 cm. diam., ramulis gracilibus dense pilis patentibus vel adscendentibus fulvis brevibus hispidulis, sat dense foliatis; folia parva petiolo incluso 7–10 cm. tantum longa, petiolo gracili 8–10 mm. longo dense pubescente nudo; rhachis 3–6 cm. longa anguste sed manifeste alata fulvo-hispidula, ala vix ultra 2 mm. lata saepe revoluta, glandulis parvis rotundis sessilibus; foliola 4–5-juga lanceolato-oblonga vel anguste elliptico-oblonga 3–9 cm. longa 1.5–2.3 cm. lata, acuta et breviter mucronata, basi sessili obtusa, supra in sicco luteo-viridia, sparse hispidula, ad costam dense breviter hispidula, subtus paullo pallidiora ad costam nervosque adpresso-hispidula, aliter sparse hispidula vel fere glabra; flores (non visi) ut videtur capitati, pedunculo 2 cm. longo; legumen late lineare valde compressum 5.5 cm. longum 8–12 mm. latum, apice subtruncatum, sessile, basi late rotundatum, sparse subadpresse hispidulum vel glabratum, marginibus aequaliter incrassatis, dorso 3-costatum.—Costa Rica: Prov. Cartago: One-half mile south of Pavones road, 4 miles east of Turrialba, alt. 900 meters or more, on north slope in clay loam in rain forest, May 21, 1943, *William R. Barbour* 1008 (U. S. Forest Service 95013; type in Herb. Field Mus.).

Local name "guaba." It is suspected that the small pods, which are somewhat constricted between the four seeds, may be somewhat atypical, and perhaps not completely developed. Like most *Inga* species, this one is difficult to place in the treatment by Britton and Rose in *North American Flora*, but it has been carefully compared with all the species listed there, and with the Central American ones more recently described, and obviously agrees with none of them. The leaves particularly, which, in spite of their small size, appear to be fully grown, are decidedly unlike those of any other Central American *Inga*.

Lonchocarpus modestus Standl. & Steyerm., sp. nov.—Frutex, ramulis ferrugineo-strigillosis; foliola 3–5 et 3–5 mm. longe petiolulata firme membranacea 5–12 cm. longa 2.5–5 cm. lata, acuminata, basi obtusa vel subacuta, glabra, venulis subtus prominulis arcte reticulatis; racemi axillares breves pauciflori 2.5 cm. longi, rhachi ferrugineo-puberula, pedicellis usque 3 mm. longis, bracteis linearifiliformibus; calyx campanulatus 3.5–4 mm. longus punctatus ciliatus, basi acutus, fere glaber sed pilis paucis minutis lucidis conspersus, lobis angustis tubum fere aequantibus; petala intense rosea glabra punctata, vexillo lato 8 mm. longo; ovarium subsessile lineare adpresso-pilosum.—Guatemala: Dept. Izabal: Bay of Santo Tomás, between Escobas and Santo Tomás, at sea level, April, 1940, *Julian A. Steyermark* 39238 (type in Herb. Field Mus.).

The small flowers and the general appearance of the foliage indicate a probable relationship with *L. minimiflorus* Donn. Smith, but the fruit, when available, may show that the relationship is quite different. Very few Central American species of the genus have quite glabrous petals.

Lonchocarpus phlebophyllus Standl. & Steyerm., sp. nov.—Arbor parva, ramulis dense puberulis; folia longipetiolata, foliolis 2–4 mm. longis petiolulatis oblongis vel ovali-oblongis coriaceis 3.5–8 cm. longis 1.8–3.5 cm. latis, apice rotundatis et vulgo subemarginatis, basi obtusis vel rotundatis, supra griseo-viridibus puberulis, costa nervisque insigniter impressis, subtus dense pilis brevibus patentibus pilosis, nervis lateralibus numerosis maxime elevatis et conspicuis, venulis prominentibus arcte reticulatis; legumen 1-spermum elliptico-oblongum vel oblongo-obovatum ca. 9.5 cm. longum atque 4 cm. latum, apice rotundatum vel obtusum, basi longiattenuatum 1 cm. longe stipitatum, dense brunneo-tomentulosum, valvis ad semen valde incrassatis, marginibus tenuibus acutis.—Guatemala: Dept.

Chiquimula: Between Ramírez and Cumbre de Chiquimula, on the road between Chiquimula and Zacapa, alt. 400–600 meters, October, 1940, *Paul C. Standley* 74569 (type in Herb. Field Mus.). Near the divide on the road from Zacapa to Chiquimula, 660 meters, *Standley* 73747.

A member of the group of *L. rugosus* Benth., but in that the leaflets are more numerous, usually more abundantly pubescent, and less conspicuously nerved, while the fruit is thinner and narrower.

Mimosa zacapana Standl. & Steyerm., sp. nov.—Frutex 1–1.5 m. altus, ramis sparse hirtellis vel glabratis aculeis paucis patentibus crassiusculis armatis; stipulae subulatae; folia breviter petiolata, petiolis vulgo 1–1.5 cm. longis, pinnis 1-jugis; foliola 6–9-juga oblonga 6–11 mm. longa 2.5–3.5 mm. lata obtusa vel subacuta, subapiculata, subcoriacea, adpresse setuloso-ciliata, supra glabra, subtus sparse breviter setulosa et saepe sparse pilosula vel fere omnino glabra, costa plus minusve excentrica; pedunculi axillares solitarii 3–4.5 cm. longi gracillimi, glabri vel glabrati, floribus capitatis, capitulis densis globosis, floribus glabris, corolla interdum ad apices loborum puberula, 2.5 mm. longa; stamina lobis corollae isomera; legumen ca. 3 cm. longum 7 mm. latum, paullo inter semina constrictum, dense pubescens, ad margines setis paucis parvis armatum, valvis quoque interdum sparse breviter setulosis, seminibus ca. 4.—Guatemala: Dept. Zacapa: Rocky slopes near Santa Rosalía, alt. 250–300 meters, October, 1939, *Julian A. Steyermark* 29018 (type in Herb. Field Mus.). Vicinity of Río Hondo, alt. 250–350 meters, *Steyermark* 29377. Baños de Santa Marta, north of Zacapa, 200 meters, *Standley* 73901.

Related to *M. caerulea* Rose of Mexico, but in that the leaflets are longer and relatively narrower, and the legume glabrous.

Rhynchosia jalapensis Standl. & Steyerm., sp. nov.—Volubilis, herbacea vel inferne suffrutescens, caulibus subangulatis dense velutino-pilosulis; stipulae lanceolato-oblongae brunneae deciduae; foliola 3 late oblique ovata vel rhombica vel fere orbicularia 4–9.5 cm. longa 2.5–6.5 cm. lata, acuta vel abrupte breviter acuminata, basi rotundata, supra velutino-pilosula, subtus densius pilosula et glandulis lutescentibus sat dense conspersa; racemi folia aequantes vel longiores multiflori, bracteis lanceolatis caducis, pedicellis usque 3 mm. longis; calyx 5 mm. longus dense pilosulus, lobis lanceolato-attenuatis tubum subaequantibus, infimo paullo longiore; corolla 9–10 mm. longa, vexillo angusto extus dense pubescente; legumen

anguste oblongum ca. 3 cm. longum et 1 cm. latum, acutum et longirostratum, basi acutum, inter semina vix constrictum, dense velutino-pubescens; semina ovalia vix compressa 6–7 mm. longa laete coccinea.—Guatemala: Dept. Jalapa: Rocky slopes, between Jalapa and San Pedro Pinula, alt. 1,400 meters, December, 1939, *Julian A. Steyermark* 32945 (type in Herb. Field Mus.).

Here probably belongs also *Tuerckheim* II.1609 from Cobán, Alta Verapaz. In its bright red seeds this Guatemalan plant recalls *R. pyramidalis* (Lam.) Urban, but in that the seeds are scarlet and black.

OXALIDACEAE

Oxalis minarum Standl. & Steyerm., sp. nov.—Perennis acaulis bulbifera, bulbo 10–11 mm. diam. subgloboso, squamis membranaceis ad margines scariosis 9–10 mm. longis, costa brunnea; folia omnia basalia ca. 5–6, palmatim trifoliolata; foliola profunde biloba, lobis divergenti-adscendentibus 2.5–5.5 cm. longis 5–12 mm. latis, sensim ad apicem rotundatum vel obtusum angustatis, glabra; petioli 15–22 cm. longi glabri; pedunculi glabri 28–30 cm. longi, floribus 15–20 simpliciter umbellatis; bracteae ovatae subito acuta 2–2.5 mm. longae; pedicelli filiformes 13–30 mm. longi superne glanduloso-pilosuli; sepala lanceolata vel oblongo-lanceolata subacuta apice callis 2 rubris lineari-oblongis vel lineari-ellipticis onusta, 4.5 mm. longa, scarioso-marginata, basi sparse glanduloso-pilosula; petala 12–13 mm. longa lilacina, sepalis duplo vel paullo ultra longiora; filamenta superne pilis adscendentibus pilosula; styli dense hirsutuli; capsula oblonga 10–12 mm. longa; semina numerosa rubescenti-brunnea ovoidea, utroque latere transverse 8–10-rugosa et longitudinaliter 3-costata.—Guatemala: Dept. Zacapa: Along stream in ravine, pine-covered slopes, Sierra de las Minas, along trail between Río Hondo and summit of mountain at Finca Alejandría, alt. 1,000–1,500 meters, October, 1939, *Julian A. Steyermark* 29718 (type in Herb. Field Mus.).

Related to *O. morelosensis* Knuth and *O. tenuiloba* (Rose) Knuth, but differing from both in its longer leaves and peduncles, longer and broader lobes of the leaflets, more numerous flowers on longer pedicels which are glandular-pilose near the apex rather than glabrous, and in the slightly longer sepals.

BURSERACEAE

Bursera Howellii Standl., sp. nov.—Arbor 15–20-metralis, ramulis crassis fusco-ferrugineis sparse pilosis vel fere omnino glabris,

apice dense foliatis; folia parva 3.5–7 cm. longa breviter petiolata vulgo 9-foliolata, rhachi late alata, alis integris; foliola inaequaliter obovata, ovata vel ovalia plerumque 1–2.5 cm. longa et 6–15 mm. lata, apice obtusissima vel rotundata, sessilia, basi oblique obtusa vel rotundata, terminali basi cuneato-angustata, utroque latere grosse paucicrenata vel fere lobulata, interdum subintegra, supra viridia sublucida sparse puberula, subtus paullo pallidiora sparse breviter pilosula; racemi fructiferi laxi foliis paullo breviores pauciflori sparse pilosi, pedicellis ca. 4 mm. longis; fructus 2-valvis 5 mm. longus globoso-obovoideus subcompressus glaber 1-spermus; sepala persistentia 4 lanceolato-triangularia pubescentia.—Costa Rica: Prov. Guanacaste: Port Parker, July 4, 1932, *John Thomas Howell* 10244 (type in Herb. Field Mus.; dupl. in Herb. Calif. Acad. Sci.).—Colombia: Sabanilla Lagoon, August, 1932, *A. Dugand* 87; Casacoima, alt. 180 meters, September, 1936, *Dugand* 1034; Santa Rosa, near Puerto Colombia road, May, 1933, *Dugand* 418.

The Colombian material was referred by the writer to *B. graveolens* Triana & Planch., but that has much larger, acuminate leaflets. The description of *B. panamensis* Pittier suggests this species, but unless the description is very inaccurate, *B. panamensis* has larger leaflets, the terminal one acute, with abundant persistent pubescence. In *B. Howellii* the leaflets are very sparsely pubescent even from the first. The collector's notes regarding the type of *B. Howellii* are as follows: "Shrubby or becoming a tree 15–20 feet tall, the trunk slender, with smooth, purplish gray bark. Growing on rocky slope back from the beach."

TRIGONIACEAE

Trigonia rasa Standl. & Steyerm., sp. nov.—Frutex scandens elongatus, ramis gracillimis fusco-brunneis, novellis hirtellis vel puberulis, internodiis brevibus; folia inter minora 2–5 mm. longe petiolata subchartacea, lamina elliptico-oblonga usque oblongo-ovata vel ovata plerumque 4.5–8.5 cm. longa et 2.5–3.5 cm. lata, saepius longe angusteque acuminata, basi obtusa, supra glabra vel tantum ad costam puberula, subtus paullo pallidior in statu adulto fere omnino glabra, ad nervos costamque hinc inde pilis paucis rectis conspersa, nervis lateralibus utroque latere ca. 5 arcuatis; thyrsi ut videtur parvi et ad 6 cm. tantum longi, pedicellis fructiferis usque 7 mm. longis; capsula oblongo-ovoidea 1.5–2 cm. longa ca. 1 cm. lata, apiculato-acuta parce pilosa rubro-brunnescens, basi rotundata, ubique dense lenticellis elevatis pallidis conspersa.—Guatemala:

Dept. Santa Rosa: Río Panal, lower slopes of Volcán de Tecuamburro, along the road between Cuilapa and Chiquimulilla, November 28, 1940, *Paul C. Standley* 78584 (type in Herb. Field Mus.). Dept. Retalhuleu, Río Coyote, along road 4 km. west of Retalhuleu, about 300 meters, February, 1941, *Standley* 87416 (sterile).

The only other species of *Trigonia* known from northern Central America is *T. floribunda* Oerst., which has somewhat larger capsules and larger leaves, on longer petioles and with more numerous lateral nerves.

CELASTRACEAE

Rhacoma puberula (Lundell) Standl. & Steyerm., comb. nov. *R. riparia* Lundell, var. *puberula* Lundell, Carnegie Inst. Wash. Publ. 478: 213. 1937. *Myginda puberula* Lundell, Bull. Torrey Club 64: 553. 1937.

Rhacoma Standleyi (Lundell) Standl. & Steyerm., comb. nov. *Myginda Standleyi* Lundell, Bull. Torrey Club 67: 618. 1940.

Rhacoma Tonduzii (Loes.) Standl. & Steyerm., comb. nov. *Gyminda Tonduzii* Loes. Bot. Jahrb. 29: 98. 1900.

ACERACEAE

Acer Negundo L. var. **mexicanum** (DC.) Standl. & Steyerm., stat. nov. *Negundo mexicanum* DC. Prodr. 1: 545. 1824.

Acer Negundo L. var. **orizabense** (Rydb.) Standl. & Steyerm., stat. nov. *Negundo orizabense* Rydb. Bull. Torrey Club 40: 55. 1913.

SABIACEAE

Meliosma dives Standl. & Steyerm., sp. nov.—Frutex vel arbor usque ad 12 m. alta, ramulis primo minute pubescentibus, in statu adulto glabratis; folia 12–15 mm. longe petiolata chartacea anguste oblanceolata vel oblongo-oblanceolata vulgo 12–18 cm. longa et 3–6 cm. lata longiacuminata, basin versus longe angusteque attenuata, remote et inconspicue serrato-dentata vel fere integra, adulta glabra vel tantum subtus in axillis nervorum barbata, supra viridia, subtus pallidiora, nervis lateralibus ca. 10-jugis irregularibus arcuatis prominentibus; paniculae terminales et axillares laxe multiflorae plerumque 8–18 cm. longae subdense sordide pubescentes, floribus sessilibus vel breviter crasse pedicellatis; calyx 2 mm. latus, sepalis orbicularibus

vel ovato-orbicularibus, apice rotundatis, ciliatis, dorso sparse puberulis; stylus brevis ovario multo brevior; drupa in statu sicco 6–8 mm. longa subglobosa vel obovoideo-globosa glabra.—Guatemala: Dept. Suchitepéquez: Eastern slopes of Volcán de Santa Clara, above Chicacao, alt. 1,250 meters, May, 1942, *Julian A. Steyermark* 46773 (type in Herb. Field Mus.). Finca Mocá, Suchitepéquez, 990 meters, May, 1937, *W. C. Muenscher* 12451. Southern slopes of Volcán de Atitlán, Sololá, 1,000–1,250 meters, *Steyermark* 47920. Barrancos west of Finca Mocá, lower slopes of Volcán de Atitlán, 1,000 meters, *Steyermark* 47614.

A relative of *M. dentata* (Liebm.) Urban, a Mexican species that has been collected once in Guatemala (Dept. Zacapa), but in that the flowers are conspicuously pedicellate and larger, and the fruit is definitely larger than in *M. dives*.

Meliosma maxima Standl. & Steyerm., sp. nov.—Arbor 9-metralis, ramis crassis primo dense sordide pubescentibus, glabrescentibus; folia inter maxima crasse 2–3 cm. longe petiolata membranacea longe cuneato-obovata vel spathulato-obovata 40–55 cm. longa 14–20 cm. lata, apice ut videtur obtusa vel rotundata, basin versus longe anguste attenuata, integra vel subintegra, supra viridia glabra, subtus dense vel sparse velutino-pubescentia, pilis brevibus patulis sordidis, costa subtus elevata, nervis lateralibus numerosis elevatis marginem fere attingentibus; paniculae axillares usque ad 23 cm. longae laxe multiflorae sparse ramosae, ramis gracillimis sat dense breviter pubescentibus; flores ad anthesin sessiles, pedicellis in statu fructifero elongatis, albi (bene evoluti non visi); ovarium glabrum; drupa subglobosa ca. 2 cm. diam.—Guatemala: Dept. Izabal: Along stream, between Bananera and La Presa, Montaña del Mico, alt. 300 meters, March, 1940, *Julian A. Steyermark* 38170 (type in Herb. Field Mus.). Along trail between Morales and Lago de Izabal, Montaña del Mico, 150 meters, *Steyermark* 39084.

Well marked by the extremely large leaves. The relationship is probably with *M. grandifolia* (Liebm.) Urban, of Oaxaca.

MALVACEAE

Abutilon Pachecoanum Standl. & Steyerm., sp. nov.—Arbuscula, ramulis dense stellato-tomentulosis atque pilis longis mollibus patentibus indutis; folia longipetiolata rotundato-ovata magna abrupte acuminata, interdum prope apicem leviter triloba, basi profunde cordata, integra, supra viridia sparse minute stellato-

pubescentia, subtus ubique tomento stellato albido subadpresso dense induta; pedunculi axillares elongati 3-flori; calyx magnus dense minute brunneo-stellato-tomentosus atque viscido-pilosus, lobis obtusis vel acuminatis; petala 5.5 cm. longa glabra; carpella capsulae ca. 10 et 8-ovulata longicuspidata dense stellato-pilosa.—Guatemala: Dept. Quezaltenango: Damp, densely forested barranco, region of Las Nubes, south of San Martín Chile Verde, alt. 2,250 meters, January, 1941, *Paul C. Standley* 83528 (type in Herb. Field Mus.); a tree 5 meters high; corolla deep wine-red. Dept. San Marcos: Rocky slopes, vicinity of Tajumulco, northwestern slopes of Volcán de Tajumulco, alt. 2,300–2,800 meters, February, 1940, *Steyermark* 36905; shrub of 3–6 meters; leaves dull green above, gray beneath.

This is a most handsome plant, well deserving introduction into cultivation. It is marked by its very large, wine-red flowers, always borne in 3's, and by the large leaves with a very dense coat of gray stellate pubescence on the lower surface. It seems to be rare, and only one plant could be found in the type locality. It is named for Don Mariano Pacheco Herrarte, Director General de Agricultura of Guatemala.

BOMBACACEAE

Ochroma lagopus Swartz, var. **bicolor** (Rowlee) Standl. & Steyerm., stat. nov. *O. bicolor* Rowlee, Journ. Wash. Acad. Sci. 9: 165. 1919.

Quararibea guatemalteca (Donn. Smith) Standl. & Steyerm., comb. nov. *Myrodia guatemalteca* Donn. Smith, Bot. Gaz. 16: 2. 1891.

MARCGRAVIACEAE

Souroubea micrantha Standl. & Steyerm., sp. nov.—Frutex scandens vel arbor parva epiphytica omnino glabra; folia 3–4 mm. longe petiolata subcoriacea lucida obovato-oblonga vel obovato-elliptica 5.5–8 cm. longa 2.5–4 cm. lata, apice rotundata vel interdum subacuta, subtus in sicco brunnescentia versus marginem pauci-glandulosa, nervis lateralibus obscuris; racemi breviter pedunculati multiflori 5–8 cm. longi 1.5 cm. lati densi, pedicellis vix ultra 5 mm. longis adscendentibus vel sursum curvatis; bracteae 3–4 mm. tantum longae pileiformes cavae ad basin floris sessiles; sepala arcte imbricata orbicularia ca. 2 mm. longa coriacea; corolla in alabastro vix ultra 3 mm. longa late ovoidea obtusissima ut videtur 3-loba;

stamina 3.—Guatemala: Dept. Izabal: Near Puerto Barrios, in *Manicaria* swamp, at sea level, April–May, 1939, *Paul C. Standley* 72793 (type in Herb. Field Mus.). Swamp near Livingston, Izabal, March, 1939, *C. L. Wilson* 362.

Most closely related to *S. triandra* Lundell, of British Honduras and Guatemala, which is reported by Lundell from Puerto Barrios. In that the flowers are larger and the bracts almost twice as long, while the much longer pedicels are divaricate or somewhat reflexed. Both are closely related to *S. exauriculata* Delp., but that is said to have the bracts inserted below rather than at the base of the flower.

GUTTIFERAE

Clusia lusoria Standl. & Steyerm., sp. nov.—Arbor 15–18-metralis omnino glabra, ramulis crassis primo ferrugineis; folia magna, petiolo 1–2 cm. longo crassissimo late alato supra concavo; lamina oblongo-obovata vel late obovato-elliptica 9–16 cm. longa 4–10 cm. lata apice late rotundata, basi cuneata vel late cuneata, supra lucida, nervis lateralibus numerosis angulo latiusculo divergentibus utrinque prominulis; inflorescentia mascula 5–11 cm. longe pedunculata 9–15-flora, medio bracteis 2 oppositis oblongis foliaceis 3–4 cm. longis sessilibus onusto, floribus sessilibus vel breviter crasseque pedicellatis, basi bracteolis 2 suborbicularibus magnis fulcratis; sepala 4 suborbicularia inaequalia, interioribus ca. 8 mm. longis; petala ovalia ca. 18 mm. longa et 8 mm. lata; stamina numerosa, antheris linearibus 5–6 mm. longis, filamentis antheris paullo brevioribus.—Guatemala: Dept. Chiquimula: Middle slopes of Montaña Norte to El Jutal, Cerro Brujo, southeast of Concepción de las Minas, alt. 1,700–2,000 meters, November 2, 1939, *Julian A. Steyermark* 30987 (type in Herb. Field Mus.). Dept. Zacapa: In cloud forest, summit of Sierra de las Minas, near Finca Planados, 2,500 meters, *Steyermark* 29972.

This species resembles *C. Salvinii* Donn. Smith, but is noteworthy for the two large foliaceous bracts inserted at the middle of the long peduncle.

Hypericum arbuscula Standl. & Steyerm., sp. nov.—Suffrutex erectus vulgo dense ramosissimus ca. 30 cm. altus, radice crassa recta, ramis erectis crassis densissime foliatis; folia sessilia erecta vel valde adscendentia imbricata linearia 1-nervia 6–9 mm. longa insigniter revoluta acuta coriacea sublucida epunctata; flores ad apicem ramorum pauci breviter pedicellati 5-meri; sepala anguste

lanceolato-oblonga acuta striata 5 mm. longa epunctata; petala sepalis paullo longiora anguste spathulata apice inflexa et cucullata ut videtur lutea epunctata; stamina numerosa distincta petala aequantia; styli 3 graciles longissimi usque 4 mm. longi, capsulam aequantes vel ea longiores; capsula ovoideo-oblonga vix ultra 3 mm. longa acuta subtrigona 1-locularis; semina pauca oblonga brunnea teretia fere laevia ca. 0.8 mm. longa.—Guatemala: Dept. Baja Verapaz: Patal, April 11, 1941, *John R. Johnston* 1812 (type in Herb. Field Mus.); between Patal and Salamá, April 11, 1941, *Johnston* 1811. Dept. Quiché: Without definite locality, *José Ignacio Aguilar* 773.

Referable to the group (subsection) *Spachium* of R. Keller. The most nearly related Central American species is *H. uliginosum* HBK., but that is herbaceous and usually annual, and has several times shorter styles. The plants are very densely branched, with very numerous suberect leaves, and heath-like in appearance.

Hypericum calcicola Standl. & Steyerm., sp. nov.—Frutex densissime ramosus erectus et 30–60 cm. altus vel procumbens et depressus, glaber, ramis vetustioribus teretibus nigris vel nigrescentibus, novellis subteretibus rubescentibus, saepius dense foliatis; folia parva breviter petiolata opposita subcoriacea, lamina elliptica vel ovali, interdum late ovata, 5–10 mm. longa 3–6 mm. lata apice obtusa vel anguste rotundata, supra viridi epunctata, venis reticulatis manifestis, subtus pallidiore sparse grosse punctata, venis nervisque laxe manifesteque reticulatis; flores ad apices ramorum solitarii breviter vel longiuscule pedicellati; sepala 4 ovato-oblonga ca. 2.5 mm. longa acuta punctata adpressa; petala rosea reflexa ca. 7 mm. longa oblonga obtusa; stamina ut videtur ca. 10, filamentis albidis; styli 3 usque 2 mm. longi ad anthesin recurvi; capsula anguste ovoidea fere 5 mm. longa pallide rosea acuta 3-sulcata 3-locularis; semina haud numerosa anguste oblonga vel subfusiformia pallida ca. 1 mm. longa.—Guatemala: Dept. Huehuetenango: On limestone bluffs, common, between Tojquiá and Caxín Bluff, summit of Sierra de los Cuchumatanes, alt. 3,700 meters, August 6, 1942, *Julian A. Steyermark* 50160 (type in Herb. Field Mus.).

In general appearance this plant somewhat resembles the very densely branched forms of *Symphoricarpos microphyllus* HBK. It is noteworthy for its densely branched, completely ligneous stems, very small and numerous leaves, and solitary rose-colored flowers. We have seen no other species that at all resembles it.

Hypericum pinetorum Standl., sp. nov.—Suffrutex erectus glaber 30–90 cm. altus dense ramosus, ramis crassiusculis rigidis erectis densissime foliatis; folia sessilia linearia erecta vel suberecta imbricata 7–17 mm. longa acuta coriacea 1-nervia valde revoluta, subtus puncticulata; flores pauci subcorymbosi breviter pedicellati; sepala anguste oblongo-lanceolata 5–6 mm. longa acuminata nervosa epunctata; petala lutea obovata sepalis vix longiora epunctata; stamina numerosa distincta petalis breviora; styli 3 vix 2 mm. longi; capsula obtuse trigona oblongo-lanceolata 4 mm. longa acuta vel attenuata brunnea 1-locularis; semina numerosa ellipsoidea brunnescentia ca. 0.6 mm. longa.—Honduras: Dept. Comayagua: Open pine forest, alt. 1,080–1,400 meters, near Siguatepeque, February, 1928, *Paul C. Standley* 55880 (type in Herb. Field Mus.). In pine forest, El Achote, near Siguatepeque, 1,500 meters, *Standley* 56130. Wet pasture, plains near Siguatepeque, 1,050 meters, *T. G. Yuncker, R. F. Dawson & H. R. Youse* 5569.

This is closely related to *H. arbuscula*, described above, but in that the styles are several times as long. The Honduran collections were determined originally with some uncertainty as *H. denticulatum* HBK., but that Mexican plant has denticulate leaves (they are entire in *H. pinetorum*) and is essentially herbaceous.

Rheedia macrantha Standl. & Steyerm., sp. nov.—Arbor alta, trunco 15–20 cm. diam. et ultra, omnino glabra, ramulis plus minusve tetragonis vel sulcatis in sicco lucidis; folia crasse 1–2 cm. longe petiolata magna coriacea, lamina elliptico-oblonga vel lanceolato-oblonga 14–24 cm. longa 4.5–8 cm. lata acuminata, basi cuneata vel obtusa, lucida, subtus pallidiore, costa utrinque elevata, nervis lateralibus numerosissimis utrinque prominentibus; flores virescentes magni in axillis vel ad nodos defoliatos dense fasciculati, pedicellis gracilibus 2.5–4.5 cm. longis, alabastris 8–10 mm. diam.; sepala suborbicularia 8–10 mm. longa apice late rotundata; petala late ovalia vel fere orbicularia 8–10 mm. longa; stamina in flore masculo numerosa, filamentis crassiusculis basin versus dilatatis; ovarium profunde sulcatum, stigmate crasse disciformi ca. 3 mm. lato; bacca ellipsoidea 6 cm. longa 3.5 cm. lata, basi obtusa, apicem versus contracta.—Guatemala: Dept. Alta Verapaz: Wet mixed forest along river bank, Río Frío, about 8 km. below Tactic, alt. 1,400 meters, April 1, 1941, *Paul C. Standley* 90524 (type in Herb. Field Mus.). In virgin forest, 1,200 meters, Finca Los Alpes, March, 1939, *C. L. Wilson* 346.

A relative of the South American *R. macrophylla* (Mart.) Planch. & Triana, but apparently fully distinct from it.

Tovomitopsis guatemaltecana (Donn. Smith) Standl. & Steyerm., comb. nov. *Chrysochlamys guatemaltecana* Donn. Smith, Bot. Gaz. 13: 26. 1888.

CACTACEAE

Bonifazia Standl. & Steyerm., gen. nov.—Plantae epiphyticae ramosae inermes, caulibus lignosis teretibus, ramis complanatis tenuibus oblique breviter crenatis acuminatis vel obtusis; flores parvi roseo-purpurei ad apices crenarum nascentes; ovarium ovale bracteis minutis late ovatis obtusis conspersum; perianthii tubus valde elongatus angustus limbo ca. quadruplo longior, extus squamis paucis latis remotis onustus, prope basin subito recurvus; perianthii segmenta pauca late oblonga obtusa apiculata; stamina numerosa (ca. 35) in fauce tubi inserta, filamentis gracillimis exsertis, antheris ovali-ovoideis basi emarginatis parvis; stylus gracillimus staminibus longior, stigmatibus 4 brevibus; fructus ignotus.

Bonifazia quezalteca Standl. & Steyerm., sp. nov.—Caules graciles, vetustioribus 5–6 mm. diam.; rami oblongo-lineares vel interdum ovato-lanceolati 15–47 cm. longi et ultra 4–5 cm. lati, apice acuti vel acuminati, rarius obtusi, basi attenuati et subteretes, in sicco tenues, crenati, crenis 2–3 cm. longis plus minusve obliquis; areolae parvae brevissime pilosae; ovarium 6–7 mm. longum, squamis vix ad 1 mm. longis; perianthii tubus 4.5 cm. longus prope medium 4 mm. latus, ad faucem 8 mm. latus, segmentis ovalibus vel late oblongis obtusissimis ca. 1.5 cm. longis; stamina purpurea 1 cm. longe exserta et ultra, antheris ca. 1 mm. longis; stylus purpureus staminibus bene longior, stigmatibus linearibus 2 mm. longis.—Guatemala: Dept. Quezaltenango: Above Mujuliá, between San Martín Chile Verde and Colomba, alt. about 1,800 meters, pendent from tree trunks in dense damp mixed forest on white sand slopes, February 1, 1941, *Paul C. Standley* 85603 (type in Herb. Field Mus.).

This is one of the most beautiful and ornamental of the epiphytic cacti of Central America. While of course the flowers are not so large as in some species of *Epiphyllum* or of the *Cereus* group, they are borne in great abundance and are of exceptionally beautiful color and form. They are of a delicate, rather pale reddish purple. The plants hang loosely against the tree trunk, the flowers being abruptly recurved from the base so that their apices point upward.

It was believed at first that this Guatemalan plant could be referred to the genus *Wittia*, which it resembles in having the tube of the perianth much longer than the limb. However, the plant constitutes a very distinct unit, that can not be placed satisfactorily in any of the groups segregated by Britton and Rose, and has much better claims to generic rank than most of those. Its relationship is clearly with the monotypic genus *Chiapasia*, which also occurs in Guatemala. It has in common with that a distinctive growth habit, and particularly the narrow perianth, abruptly recurved from the base. The latter character of *Chiapasia*, strangely enough, seems to have escaped the attention of the authors of that genus, although it is very conspicuous in their illustration of it. Perhaps they believed that the position of the flowers was the result of handling during drying. The Guatemalan plant can not be referred satisfactorily to *Chiapasia*, because in that the segments of the perianth are two to three times as long as the tube, very narrow and long-attenuate, and the stamens are about half as numerous.

The new genus, whose single species is one of the handsomest of Guatemalan plants, is dedicated to the family of Don Guillermo Bonifaz of Quezaltenango. The senior author has spent two months in their *pensión* in that city, and has many cherished memories of the gracious hospitality extended to him. To no other lodging place in Central America would he return with so much pleasure as to the Pensión Bonifaz, of which he has only happy memories, despite the benumbing cold and fog that so often characterize the climate of that western metropolis of Guatemala.

Heliocereus heterodoxus Standl. & Steyerm., sp. nov.—Epiphytica plus minusve scandens, caulibus complanatis vel trigonis 3–4 cm. latis remote crenatis, areolis 2–4 cm. distantibus parvis dense tomentosis; spinae 4–8 usque ad 8 mm. longis vulgo brevioribus acicularibus fuscis vel primo pallidis; flores 8–11 cm. tantum longi, tubo limbo longiore usque ad 7 cm. longo, bracteis tubi oblongis obtusissimis viridibus denticulatis, spinis gracillimis fere filiformibus laxis pallidis usque ad 1 cm. longis; segmenta interiora limbi 3.5–4.5 cm. longa obovata vel late oblonga apice late rotundata, segmentis exterioribus paullo brevioribus; stamina segmentis paullo breviora, filamentis roseis, antheris albis 3 mm. longis.—Guatemala: Dept. San Marcos: Along Río Vega between San Rafael and the northeastern portion of Volcán de Tacaná, alt. 2,500–3,000 meters, February 21, 1940, *Julian A. Steyermark* 36291 (type in Herb. Field Mus.); also no. 36262 from the same locality. Dept. Chimaltenango:

Pendent from tree in wet forest, Las Calderas, lower slopes of Volcán de Fuego, 1,800–2,100 meters, *Standley* 57830; *John R. Johnston* 1208.

From all other species of the genus this is distinguished by the relatively long corolla tube, that of other species being much shorter than the limb. The type and one other collection are noteworthy for having complanate rather than 3-angulate stems, but other specimens placed here have the normal 3-angulate stems.

THYMELAEACEAE

Daphnopsis malacophylla Standl. & Steyerm., sp. nov.—Frutex vel arbor 4.5–6-metralis, ramis ferrugineis, novellis dense pilis patentibus fulvis hirtellis vel breviter hirsutis; folia breviter petiolata chartacea, petiolo 4–8 mm. longo; lamina oblongo-elliptica vel oblongo-obovata 7–16 cm. longa 2.5–6.5 cm. lata, acuta vel acuminata, apice ipso obtuso, basi acuta, supra sparse pilis teneris patentibus vel adpressis pilosa, serius glabrata, nervis venisque prominulis, subtus fere concolor ubique dense pilis mollibus patentibus vel subadpressis pilosa vel hirtella, costa gracili prominente, nervis lateralibus utroque latere ca. 7 irregularibus angulo lato vel latiusculo divergentibus, venis prominulis laxe reticulatis; pedunculi terminales et extra-axillares 1.5–4.5 cm. longi dense hirtelli, umbellis densis multifloris, pedicellis brevibus vix ad 3 mm. longis dense adpresso-pilosis; perianthium masculum 6 mm. longum adpresso-hirtellum, lobis vix ultra 1 mm. longis; perianthium femineum 5 mm. longum strigosum, lobis rotundo-ovatis patentibus; stylus breviter exsertus; fructus ovoideus ca. 7 mm. longus sparse adpresso-pilosus acutus, stylo brevi terminatus.—Guatemala: Dept. Huehuetenango: Cerro Cananá, Sierra de los Cuchumatanes, alt. 2,500–2,800 meters, July 18, 1942, in wet cool cloud forest, between Cananá and Quetzal, *Julian A. Steyermark* 49104 (type in Herb. Field Mus.). Cerro Huitz, between Mimanhuitz and Yulhuitz, 1,500–2,600 meters, *Steyermark* 48559, 49646. Wet cloud forest, Cruz de Limón, between San Mateo Ixtatán and Nucá, 2,600–3,000 meters, *Steyermark* 49820, 49844.

Distinguished among Central American species by the abundant soft pubescence and acute leaves.

SAPOTACEAE

Sideroxylon Stevensonii (Standl.) Standl. & Steyerm., comb. nov. *Dipholis Stevensonii* Standl. Trop. Woods 11: 21. 1927. *S. rufotomentosum* Standl. Carnegie Inst. Wash. Publ. 461: 79. 1935.

VACCINIACEAE

By A. C. Smith

Macleania linearifolia (Donn. Smith) A. C. Smith, Contr. U. S. Nat. Herb. 28: 368. 1932.—Guatemala: Dept. Alta Verapaz: Large swamp just east of Tactic, alt. 1,300 meters, *Steyermark 43953;* woody epiphyte, sprawling on top of knob in swamp; leaves coriaceous, dark green above, paler beneath; calyx and corolla angled, both orange-red.

In view of the fact that this species has previously been recorded only from the type, also from Alta Verapaz, the above record is noteworthy. The Steyermark specimen has the leaf blades still linear-oblong, but the proportions are somewhat less accentuated than those of the type, which has the blades at least five times as long as broad. The present collection has some of the blades only slightly more than three times as long as broad, but nevertheless the species may readily be distinguished from its closest ally, *M. insignis* Mart. & Gal., which is comparatively common in Guatemala.

Empedoclesia brachysiphon Sleumer, Notizbl. Bot. Gart. Berlin 12: 124. 1934.—Guatemala: Dept. Huehuetenango: Vicinity of Maxbal, about 17 miles north of Barillas, Sierra de los Cuchumatanes, alt. 1,500 meters, *Steyermark 48838;* epiphyte; leaves coriaceous, deep green above, paler beneath; rachis and calyx deep red; corolla orange-red without, pale cream-colored on lobes within.

The second collection of this remarkable monotypic genus agrees, in all essential characters, with the type specimen, *Tuerckheim* 4196, from Cobán, Alta Verapaz. The essential characters of the genus are the bracteoles at the apex of the pedicel, the alternately unequal filaments, and the very short anther tubules with apical pores. In his recent key to the genera of Vacciniaceae, Sleumer (Bot. Jahrb. 71: 368–389. 1941) places *Empedoclesia* closest to *Orthaea*, but I am inclined to agree with his first impression and consider the genus as a relative of *Macleania*. However, *Empedoclesia* must be construed as one of the most distinct genera of the family.

The Steyermark collection differs from the original description in several minor characters: The lateral nerves of the leaf blades are only about 4 rather than 6 or 7; the raceme reaches a length of 31 cm., rather than merely 10–12 cm., and bears up to 40 flowers, those toward the base being soon caducous; the pedicels are up to 10 mm. long and have subtending bracts up to 5 mm. long; the calyx is 12 mm.

long at maturity rather than 9 mm.; the corolla is up to 25 mm. long and 6 mm. in diameter, the filaments and anthers being each about 5 mm. long. These larger dimensions merely indicate that the recent collection has more robust inflorescences than the type.

Disterigma Humboldtii (Kl.) Niedenzu, Bot. Jahrb. 11: 224. 1889; A. C. Smith, Brittonia 1: 222. 1933.—Guatemala: Dept. Huehuetenango: Cerro Huitz, between Barillas and Mimanhuitz, Sierra de los Cuchumatanes, alt. 1,600–2,600 meters, *Steyermark 48535;* shrubby epiphyte; corolla whitish.

As compared with material of this species from Costa Rica, Panama, and Colombia, the Guatemalan collection has slightly larger leaf blades, these being up to 15 mm. long and 7.5 mm. broad. In all floral details, however, the cited specimen is precisely matched by specimens from farther south. The flowers are slightly larger than those described by me in 1933, but since then I have seen other specimens with the corolla up to 8.5 mm. long and the filaments up to 5 mm. long, dimensions found in the Steyermark collection. It is conceivable that when more material from Central America is available, it may prove desirable to recognize the Guatemalan plant nomenclaturally on the basis of its larger leaves.

The collection of *Disterigma* in Guatemala is especially noteworthy, as the genus has otherwise not been reported north of Costa Rica.

Malea pilosa Lundell, Amer. Midl. Nat. 29: 484. 1943.—Guatemala: Dept. Huehuetenango: La Sierra (Tujimach), across river from San Juan Atitlán, Sierra de los Cuchumatanes, alt. 2,500–2,900 meters, *Steyermark 52017;* epiphytic liana or shrubby; leaves subcoriaceous, deep green above, dull green beneath; upper forested slopes.

Malea Lundell, a recently described monotypic genus apparently related to *Gaylussacia,* was based on two collections made in Chiapas by Matuda; the occurrence of the genus in Guatemala is of especial interest. Although the Steyermark collection lacks corollas and stamens, it precisely matches Matuda's type in all vegetative details, as well as in characters of the calyx and ovary.

LOGANIACEAE

Buddleia stenoptera Standl. & Steyerm., sp. nov.—Frutex 1–3-metralis dense ramosus, ramis tetragonis, angulis anguste vel

interdum latiuscule alatis, novellis primo dense tomento fulvo vel brunnescente stellato-lanatis; folia chartacea vel fere membranacea breviter petiolata vel saepe sessilia, petiolo rare usque 1 cm. longo; lamina late ovata vel elliptico-ovata usque lanceolata 5–15 cm. longa 1.5–7 cm. lata, acuta vel attenuato-acuminata, basin versus sensim angustata vel interdum subito contracta et cuneato-attenuata, arcte dentata vel serrata, supra stellato-tomentosa vel glabrata, subtus dense tomento laxo albido vel brunnescente stellato ubique obtecta; flores lutescentes vel albidi 3 mm. longi dense capitati, capitulis globosis 8 mm. diam. interrupto-spicatis, spicis in paniculas terminales usque 13 cm. longas et aequilatas dispositis, floribus dense tomentosis; calyx brevis, dentibus brevibus latis subobtusis; corolla extus tomentulosa, lobis patentibus oblongo-ovatis obtusis, intus plus minusve villosulis; capsula 2.5–3 mm. longa ovalis teres tomentulosa apice rotundata.—Guatemala: Dept. Quezaltenango: Hot springs in canyon tributary to Río Samalá, below Zunil, alt. 2,500 meters, January 24, 1940, *Julian A. Steyermark* 35001 (type in Herb. Field Mus.).

Besides the type, we have referred to this species eleven other collections from the departments of Jalapa, Huehuetenango, Guatemala, Quezaltenango, Chimaltenango, and Quiché. Here is to be referred all or most of the Guatemalan material determined heretofore as *B. floccosa* Kunth. That was based upon material of Mexican origin which, from description, must have been quite distinct from the Guatemalan plant.

Buddleia amplexicaulis Standl. & Steyerm., sp. nov.—Frutex 1.5–2.5 m. altus, ramis pallidis tetragonis laxe pilis fulvidis ramosis tomentosis, angulis anguste alatis; folia modica sessilia, ovata vel oblongo-ovata 6–15 cm. longa 2.5–5 cm. lata, acuta vel obtusa, prope basin abrupte contracta et in partem petioliformem 1–3.5 cm. longam 4–16 mm. latam basi amplexicaulem et cordatam contracta, crenato-dentata, supra dense stellato-tomentosa vel glabrata, subtus densissime tomento stellato brunneo vel fulvo laxo non adpresso tomentosa; flores dense stellato-tomentosi dense capitati, 3 mm. longi, capitulis 6–8 mm. diam. dense multifloris globosis interrupto-spicatis; calyx brevis breviter dentatus dense tomentosus; corolla extus tomentella, lobis obtusis intus glabris.—Guatemala: Dept. Quezaltenango: El Chorro, near Zunil, February 17, 1939, *Paul C. Standley* 65479 (type in Herb. Field Mus.). Dept. San Marcos: Near Río Vega, Volcán de Tacaná, alt. 2,500–3,000 meters, February,

1940, *Steyermark* 36332. Above Río Tacaná, near San Antonio, alt. 2,700 meters, February, 1939, *Standley* 66124.

The relationship is with *B. floccosa* Kunth, but in that the leaves are definitely petiolate, or else sessile and acute or acuminate at the base.

Buddleia astralis Standl. & Steyerm., sp. nov.—Arbor 12-metralis, ramis crassis tetragonis dense inaequaliter tomentosis, pro parte dense minute tomento arcte adpresso albido conspersis, quoque tomento longiore fulvido stellato remote obtectis; folia magna longi-petiolata chartacea, petiolo nudo crasso 5–7 cm. longo ut ramis induto; lamina ovata 19–27 cm. longa 9–11 cm. lata longiacuminata, basi acuta, supra viridis, primo tomentulosa cito glabrata, subtus ubique dense tomento pallido arcte adpresso obtecta, quoque tomento laxiore stellato detergibili conspersa, nervis lateralibus late divergentibus prominentibus, venis prominentibus laxe reticulatis; flores flavi 4 mm. longi in capitula pauciflora 7 mm. diam. aggregati, capitulis cymoso-paniculatis, paniculis terminalibus pyramidalibus usque 25 cm. longis sessilibus, ramis dense inaequaliter tomentulosis; calyx tomentulosus 2 mm. longus, dentibus latis obtusis; corolla calyce duplo longior extus tomentulosa, lobis rotundo-ovatis apice rotundatis patentibus intus sparse villosis.—Guatemala: Dept. San Marcos: Brushy field, lower slopes of Loma de la Paloma, above Finca El Porvenir, southern slopes of Volcán de Tajumulco, alt. 1,400–1,700 meters, March 8, 1940, *Julian A. Steyermark* 37276 (type in Herb. Field Mus.).

The present plant is obviously related to *B. ovandensis* Lundell, collected on Mount Ovando, Chiapas, and further collections will be necessary to determine whether two distinct species are represented. In *B. ovandensis* the tomentum is uniform, minute, and closely appressed, and in age the lower surfaces of the leaves are green. In *B. astralis* the tomentum is conspicuously uneven, the lower coat consisting of minute appressed silvery hairs, over which are scattered loose copse-like tufts of a lax, much-branched, brownish tomentum; the lower surfaces of the leaves are whitish or silvery in age.

Spigelia carnosa Standl. & Steyerm., sp. nov.—Perennis, erecta vel decumbens, herbacea vel inferne frutescens omnino glabra, caule tereti; stipulae triangulares acutae 3 mm. longae persistentes; folia opposita, suprema quaternata, petiolo usque 6 mm. longo, in vivo crasse carnosa, in sicco chartacea vel fere coriacea; lamina elliptica

usque elliptico-oblonga, late obovata vel ovata, 5–8.5 cm. longa 2–3.5 cm. lata, breviter acuminata usque obtusa, basi acuta, supra intense viridis, nervis obsoletis, subtus multo pallidior fere enervis; spicae 4–13 cm. longae multiflorae longipedunculatae graciles secundae, floribus sessilibus; calycis segmenta 5 mm. longa linearilanceolata subrecurva; corolla 1.5 cm. longa superne sensim dilatata, extus interdum lilacina, intus alba; stylus delapsa corolla sepalis aequilongus vel brevior apicem capsulae subaequans; capsula 5 mm. lata laevis glabra, breviter biloba; semina lutescentia fere laevia 2.5 mm. longa.—Guatemala: Dept. Huehuetenango: Dense rich wet woods between Yulhuitz and Maxbal, Sierra de los Cuchumatanes, alt. 1,400–1,500 meters, July 15, 1942, *Julian A. Steyermark* 48692 (type in Herb. Field Mus.). Dept. Alta Verapaz: Río Tzimajil near Cobán, alt. about 1,300 meters, bought from peddler, *Standley* 90272.

When dried, this plant appears little different from *S. Humboldtiana* Cham. & Schlecht., but when fresh the plants are very different, the leaves of this species being as fleshy as those of a begonia, while those of *S. Humboldtiana* are thin and not succulent. In the latter the style is conspicuously longer than in this new species.

OLEACEAE

Fraxinus bicolor Standl. & Steyerm., sp. nov.—Frutex 3-metralis, ramulis gracilibus fusco-brunneis teretibus sparse lenticellatis, novellis dense puberulis; folia vulgo 5-foliolata plerumque 8–12 cm. longa; foliola membranacea, lateralia sessilia, terminale longe petiolulatum, late ovalia usque ovata, oblongo-ovata vel elliptica 3–8 cm. longa 1.5–3.5 cm. lata, subacuta vel acuminata, basi rotundata vel subacuta, adpresse crenata, dentibus obtusis, supra viridia sparse denseve pilosula, subtus glaucescentia dense velutinopubescentia, nervis venisque supra subtusque vix prominentibus.—Guatemala: Dept. Guatemala: Near Fiscal, dry rocky brushy hillsides, alt. 1,100 meters, December, 1940, *Paul C. Standley* 80408 (type in Herb. Field Mus.). Dept. Jutiapa: Between Jutiapa and La Calera, south of Jutiapa, 850 meters, *Standley* 76150. Dept. Chiquimula: Wooded summit of Mount Tojás, near Sasmo, northwest of Chiquimula, 520 meters, October, 1939, *Steyermark* 30215.

This may be only a form of *F. vellerea*, described below, but it differs in the form of its leaflets, which are thinner and appressed-crenate, rather than acutely serrate. Both these species, unfortunately, are known only from sterile material, but they are clearly different from all the Mexican species.

Fraxinus Cavekiana Standl. & Steyerm., sp. nov.—Arbor usque 23 m. alta, ramulis crassis primo puberulis, cito glabratis, fusco-brunneis, lenticellis magnis elevatis sparse conspersis; folia magna 5–9-foliolata, vulgo 20–35 cm. longa; foliola omnia petiolulata, petiolulis interdum elongatis, ovata usque oblongo-lanceolata vulgo 8–14 cm. longa et 3–7 cm. lata acuminata vel longe angusteque acuminata, basi plerumque acuta vel abrupte acutata, membranacea, supra viridia sublucida, costa nervisque impressis, subtus aliquanto pallidiora glabra vel sparse pubescentia, secus costam saepe breviter barbata, nervis valde prominentibus, venis prominulis laxe reticulatis; panicula fructifera magna ca. 22 cm. longa laxa, pedicellis filiformibus brevibus; fructus 4.5–5 cm. longus, parte seminifera ca. 1.5 cm. longa subtereti, ala obtusa 6–7 mm. lata vix ad mediam partis seminiferae decurrente.—Guatemala: Dept. Quiché: Stream banks, Nebaj, alt. 1,860 meters, November, 1934, *A. F. Skutch* 1660 (type in Herb. Field Mus.).

Here are referred tentatively eight sterile collections from Quezaltenango and Huehuetenango, some of which may not actually belong with *F. Cavekiana*. The type was distributed as *F. Uhdei* (Wenz.) Lingelsh., a Mexican species which occurs also in Guatemala, but is distinguished by having fruits scarcely more than half as large. The species name is derived from Cavek, the name of the royal house of Quiché, from the time of its establishment until its destruction by the Spaniards.

Fraxinus vellerea Standl. & Steyerm., sp. nov.—Arbor 4–5-metralis, ramulis puberulis vel glabratis, vetustioribus fusco-brunneis teretibus lenticellis parvis pallidis sat dense conspersis; folia 11–17 cm. longa vulgo 7-foliolata, interdum 5-foliolata; foliola crasse membranacea firma, lateralia sessilia, terminale petiolulatum, late ovata usque oblongo-ovata vel lanceolato-oblonga 4–8 cm. longa 2–4 cm. lata, acuta vel longiacuminata, lateralia basi obtusa vel oblique rotundata, terminale acutum, supra viridia sparse pilosula sublucida in sicco fuscescentia, nervis venisque non elevatis, subtus pallidiora densissime velutino-pilosula, in toto margine dense serrata, dentibus acutis non adpressis.—Guatemala: Dept. Jutiapa: Damp thicket near Jutiapa, alt. 850 meters, October–November, 1940, *Paul C. Standley* 76162 (type in Herb. Field Mus.).

There are at hand four other collections from the departments of Jalapa, Chiquimula, and Guatemala, all sterile. The relationship is with *F. Purpusii* Brandeg. of Mexico and Guatemala, but in that the

similar leaflets are glabrous or essentially so, while in *F. vellerea* they are densely pubescent even when ready to fall.

GENTIANACEAE

Centaurium rosans Standl. & Steyerm., sp. nov.—Annua erecta prope basin dense laxeque ramosa, caulibus gracilibus saepe diffuse ramosis; folia patentia late linearia vel oblanceolata 1–2 cm. longa acuta sessilia, vulgo basin versus attenuata; flores rosei ad anthesin 11–13 mm. longi longipedicellati, pedicellis 1–2 cm. longis adscendentibus, non stricte erectis; calyx 6 mm. longus, segmentis lineari-lanceolatis longiattenuatis; corollae tubus calycem aequans, lobis late ovatis obtusis tubo paullo longioribus; semina numerosissima minuta brunnea.—Guatemala: Dept. Quezaltenango: Moist banks, Volcán de Zunil, alt. 2,500–3,000 meters, January, 1940, *Julian A. Steyermark* 34609 (type in Herb. Field Mus.). Oak forest, Cerro La Pedrera, south of Quezaltenango, February, 1939, *Standley* 66453. Between Fuentes Georginas and Zunil, *Standley* 67317.

Six other collections have been seen, which show that the species occurs also in the departments of Sacatepéquez, Chimaltenango, Sololá, and Huehuetenango. Apparently referable to it, also, is *Liebmann* 10782 from Chinantla, Oaxaca. The plant is related to *C. strictum* (Schlecht.) Druce, common in Guatemala, but that is a strict plant, with the flowers confined to the upper part of the stem, the pedicels erect or nearly so, and with much shorter and broader calyx segments.

Gentiana guatemalensis Standl. & Steyerm., sp. nov.—Perennis, caudice crasso lignoso, caulibus procumbentibus numerosis crassiusculis 5–15 cm. longis dense foliatis; folia patentia sessilia oblonga 1.5–2.5 cm. longa 4–6 mm. lata, apice obtusa vel anguste rotundata, basi paullo angustata, enervia, ad margines minute scaberula; flores 1–3 terminales vel subterminales sessiles 3.5 cm. longi purpureo-caerulei; calycis tubus obconicus 8 mm. longus, lobis 5 inaequalibus anguste lanceolato-oblongis ca. 10 mm. longis subacutis ad margines scaberulis; corolla campanulata 2.5 cm. longa, lobis rotundo-ovatis fere 1 cm. longis apice rotundatis, plicis lobis multo brevioribus bilobis, lobis triangularibus acutis vel acuminatis sparse serratis.—Guatemala: Dept. Huehuetenango: Alpine meadow, region of Chémal, Sierra de los Cuchumatanes, alt. 3,300 meters, December, 1940, *Paul C. Standley* 81113 (type in Herb. Field Mus.), 81080; *John R. Johnston* 1723.

This differs from *G. Lewisiae* in its larger flowers, which are purple-blue rather than clear blue; also in having different plicae or folds between the corolla lobes.

Gentiana Lewisiae Standl. & Steyerm., sp. nov.—Perennis prostrata, caulibus gracilibus 6–13 cm. longis simplicibus unifloris; folia patentia oblonga 8–13 mm. longa 4–5 mm. lata apice obtusissima vel rotundata, basi subacuta sessilia 1-costata enervia subtus paullo pallidiora; flos terminalis sessilis basi foliis 2 fulcratus; calycis tubus 5–6 mm. longus anguste obconicus, lobis 5 oblongis vel anguste spathulato-oblongis 4–7 mm. longis subacutis erectis; corolla caerulea 2 cm. longa campanulata, lobis 5 ca. 3 mm. longis rotundo-ovatis apice obtusissimis, plicis lobis multo brevioribus breviter bilobis, lobis rotundatis.—Guatemala: Dept. Totonicapán: Damp meadow, Pacajá, region of Desconsuelo, in the mountains above Totonicapán, alt. 3,100–3,200 meters, *Paul C. Standley* 84556 (type in Herb. Field Mus.). Region of Salvachán, mountains above Totonicapán, 3,100 meters, *Standley* 84487. Cerro Quiché, 3,300 meters, February, 1940, *F. W. Hunnewell* 17210.

The species is named for Mrs. B. E. Lewis of Guatemala, whose keen interest in the plants of Guatemala has resulted in the addition of numerous species, previously unknown, to its recorded flora. She has taken a particular interest in the fascinating, varied, and often very beautiful flowers of the alpine regions, which often remind one keenly of the alpine plants of the western mountains of the United States.

In 1940 and 1941 the senior author collected large-flowered gentians in the Desconsuelo region of Totonicapán and in the Chémal area of the Sierra de los Cuchumatanes. It was assumed that a single species was represented, but when the material was compared, it was revealed that the plants of these two areas were quite distinct. *Gentiana Lewisiae* and *G. guatemalensis* are more or less related to several Mexican species, but not closely to any of them. There are now known from Guatemala four gentians, although apparently none of them had been found there until 1940, in spite of the fact that one of them grows beside one of the most frequented roads of the country, along which stage coaches were traveling at least 200 years ago.

Gentiana pumilio Standl. & Steyerm., sp. nov.—Annua humillima vix ultra 2.5 cm. alta simplex vel e basi ramosa, caulibus unifloris densissime foliatis; folia radicalia ca. 4 oblongo-obovata usque 15 mm. longa et 6 mm. lata obtusa vel subacuta, caulinis magnitudine

et forma variabilibus, inferioribus late obovatis, superioribus late ovatis, plus minusve amplexicaulibus, omnibus dense imbricatis albomarginatis 2–7 mm. longis, carinatis, late obtusis et saepe mucronatis; flores inter folia sessiles 6–7 mm. longi; calyx fere tubulosus, dentibus 5 oblongis brevibus erectis obtusissimis late albomarginatis, sinubus latis separatis minutissime marginibus scaberulis fere aequalibus; corolla pallide caerulea infundibuliformis, limbo rotato, lobis rotundo-ovatis vel obovatis 3.5 mm. longis apice rotundatis, plicis lobis brevioribus emarginatis vel breviter bilobis; capsula anguste oblonga 6 mm. longa.—Guatemala: Dept. San Marcos: Scattered on dry rocky open slopes among *Alnus* trees, between San Sebastián and summit of Volcán de Tajumulco, altitude about 4,000 meters, February, 1940, *Julian A. Steyermark* 35489 (type in Herb. Field Mus.).

There are at hand five additional collections, from alpine meadows of Volcán de Tacaná, San Marcos, the region of Desconsuelo, Totonicapán, and the region of Chémal, Sierra de los Cuchumatanes, Huehuetenango. The plant has been collected also in Chiapas, on Volcán de Tacaná (*E. Matuda* 2868). It is a close ally of *Gentiana sedifolia* HBK., a common species of the South American Andes, which occurs also in Costa Rica and has been collected recently in the Chémal region of the Sierra de los Cuchumatanes, Huehuetenango, where it grew with *G. pumilio*. In recent accounts of the gentians of South America, students of the genus have thrown up their hands in despair at alignment of the forms of *G. sedifolia* (see Gilg, Repert. Sp. Nov. 2: 51. 1906, and elsewhere). The South American material of the species does show great variation in several respects, but we have seen among the numerous collections available for study none like the Guatemalan collections of *G. pumilio*, which are all quite uniform in their characters. *G. pumilio* is a much smaller plant, never more than 1–2.5 cm. high, noteworthy for its densely imbricate leaves, which quite conceal the stem, and for its small flowers, in which the plicae between the corolla lobes are short and somewhat bilobate. *G. sedifolia* was illustrated as having plicae quite as large as the corolla lobes.

Schultesia guianensis (Aubl.) Malme, forma **lutescens** Standl. & Steyerm., f. nov.—A forma typica non nisi corollis pallide luteis vel ochroleucis differt.—Guatemala: Dept. Jalapa: Damp meadow in oak forest, near Jalapa, alt. 1,360 meters, November, 1940, *Paul C. Standley* 76561 (type in Herb. Field Mus.).—Honduras: Dept. Comayagua: Dry open bank, near Siguatepeque, 1,400 meters, February, 1928, *Standley* 56088.

Because of its pale buff or cream-colored corollas, this is much different in appearance from the common form of the species, with dirty pink flowers. Large numbers of the plants, all much reduced in size and mostly 2–3 cm. high, were found at the Jalapa station.

Voyria truncata (Standl.) Standl. & Steyerm., comb. nov. *Leiphaimos truncata* Standl. Contr. U. S. Nat. Herb. 20: 196. 1919. *V. Allenii* Steyermark, Ann. Missouri Bot. Gard. 28: 460. 1941.

APOCYNACEAE

Tonduzia longipedunculata Woodson, sp. nov.—Frutex. Folia 4-nata longiuscule petiolata, lamina anguste elliptico-lanceolata longe acuminata basi in petiolum ca. 3 cm. longum gradatim attenuata 15–20 cm. longa 2.5–3 cm. lata membranacea utrinque glabra. Inflorescentia subterminalis axillaris longe (ca. 7–8 cm.) pedunculata superne 3-chasialiter ramosa subcorymbosa multiflora; pedicellis gracilibus ca. 0.5 cm. longis; bracteis minutis; calycis laciniis ovatis acuminatis ca. 0.2 cm. longis subconduplicatis viridibus glabris; corollae lacteae tubo ca. 0.8 cm. longo basi ca. 0.5 mm. diam. paullo sub medio aliquantulum dilatato ibique staminigero, ostio ca. 0.75 mm. diam. dilute luteo, lobis oblongo-ovatis ca. 0.9 cm. longis patulis. Folliculi ignoti.—Guatemala: Dept. Sololá: Trail between village of San Pedro, via San Juan, San Cristóbal Buena Vista, and northwestern slopes of Volcán de Santa Clara, alt. 1,900–2,300 meters, June 8, 1942, *J. A. Steyermark* 47313 (Herb. Missouri Bot. Gard., type; duplicate in Herb. Field Mus.).

Easily distinguished from other published species of *Tonduzia* by means of the elongate primary peduncles which far surpass the secondary branches.

ASCLEPIADACEAE

Matelea Medusae Woodson, sp. nov.—Frutex volubilis; ramulis gracilibus indumento complicato pilis aliis longioribus substrigosis eglandularibus aliis minute bulbosis glandularibus, internodiis longiusculis. Folia opposita longiuscule (ca. 1.5 cm.) petiolata oblongo-elliptica apice acuminata basi cordata 6–9 cm. longa 1.5–3.5 cm. lata membranacea omnino (more ramulo) complicato-pubescentia basi supra in sinu inconspicue glandulosa. Inflorescentia extra-axillaris umbelliformis 5–8-flora; pedunculo 0.5–1.0 cm. longo complicato-pubescente, bracteis vix bene visis; pedicellis pedunculum subaequantibus simile vestitis; calycis laciniis ovato-lanceolatis

longe caudato-acuminatis ca. 0.4 cm. longis basi ca. 0.15 cm. latis patulis extus complicato-pubescentibus; corollae rotatae dilute virides lobis linearibus longe acuminatis ca. 1.8 cm. longis basi ca. 0.15 cm. latis marginibus revolutis intus glabris extus complicato-pubescentibus; gynostegio longe stipitato, corona purpurea columnari ca. 0.13 cm. longa sub anthera lobis patulis 5 obtusis calloso-emarginatis antheris alternatis ligulisque minutis sub anthera instructa, stigmate dilute viridi plano ca. 0.13 cm. diam., polliniis subpendentibus ovoideis convexo-concavis apice margine hyalinis caudiculis corpusculoque minutis. Folliculi ignoti.—Guatemala: Dept. Huehuetenango: Rocky slopes above La Libertad, on Cerro Pueblo Viejo, alt. 1,900 meters, August 20, 1942, *J. A. Steyermark* 50987 (Herb. Missouri Bot. Gard., type; duplicate in Herb. Field Mus.).

Apparently of the subgenus *Ibatia*, but differing from all known species in the very narrow and elongate corolla lobes. The ligules of the corona immediately beneath the anthers are rather unusual in this subgenus, being found more frequently in subgen. *Chthamalia* (cf. Woodson, Ann. Missouri Bot. Gard. 28: 217–237. 1941). Species of *Chthamalia*, however, usually have narrower, more nearly horizontal pollinia.

Marsdenia stephanotidifolia Woodson, sp. nov.—Frutex volubilis magnus inflorescentia excepta glaber; ramis sat crassis cortice luteobrunneis conspicue lenticellatis, internodiis elongatis. Folia late ovata apice abrupte acuminata basi late rotundata inferne cordata 10–17 (–25?) cm. longa 6–11 (–17?) cm. lata subcoriacea basi supra in sinu conspicue glandulosa, petiolo 2.5–4.5 (–6?) cm. longo. Inflorescentia extra-axillaris umbelli- vel corymbiformis dichotome saepe repetite divisa pedunculo petiolum fere aequante puberulo-papillato; pedicellis ca. 0.8 cm. longis puberulo-papillatis; calycis laciniis ovatis obtusis ca. 0.5 cm. longis extus papillatis; corolla urceolata ut videtur gilva ca. 1.1 cm. longa basi ca. 0.5 cm. diam. extus glabra intus marginibus lobi exceptis dense villosula, lobis erectis vel paululo patulis tubum aequantibus; gynostegio proprio incluso rostro stigmatis exserto, antheris ca. 0.5 cm. longis subsessilibus dorso basi triangulo-incrassatis, appendicibus apicalibus simplicibus membranaceis ca. 0.15 cm. longis, polliniis oblongoideis ca. 0.5 mm. longis corpusculum aequantibus, rostro stigmatis conico apice obscure 2-fido ca. 0.4 cm. longo basi ca. 0.15 cm. crasso. Folliculi ignoti.—Guatemala: Dept. Quezaltenango: Wet mixed forest along Río Samalá, near Santa María de Jesús, alt. 1,500–1,650

meters, January 25, 1941, *P. C. Standley* 84593 (Herb. Missouri Bot. Gard., type; duplicate in Herb. Field Mus.). Densely forested, damp, white sand quebrada, El Pocito, south of San Martín Chile Verde, on road to Colomba, alt. about 2,200 meters, January 27, 1941, *Standley* 84905 (Herb. Missouri Bot. Gard.). Petén: Uaxactún, April 9, 1931, *H. H. Bartlett* 12555 (Herb. Missouri Bot. Gard.).

Bartlett's specimen, previously unidentified, is referred here with some uncertainty, since it consists merely of a few leaves and a short section of stem, all considerably larger than those of the type, possibly from lower on the liana. I suppose that *M. stephanotidifolia* is most closely related to the Antillean species of Rothe's section *Stephanotis* subsect. *Cubenses*, although the corolla lobes of those are proportionally longer. I can find no clearer indications of affinity.

Gonolobus versicolor Woodson, sp. nov.—Frutex volubilis validus, ramulis pilosis. Folia oblongo-ovata apice acute acuminata basi truncata vel levissime auriculata 4.5–8 cm. longa 2–3.5 cm. lata membranacea supra subtusque nervo medio piloso caeterumque glabra, petiolo 1.5–3.5 cm. longo piloso. Inflorescentia extra-axillaris pauciflora, pedunculo glabro 3–5 cm. longo, pedicellis 2–2.5 cm. longis glabris. Flores magni versicolores; calycis laciniis linearilanceolatis longe acuminatis ca. 2 cm. longis basi ca. 0.3 cm. latis patulis glabris extus basi fulvo-brunneis apice nigro-brunneis; corollae rotatae lobis lineari-lanceolatis longe acuminatis 2.5–3 cm. longis basi ca. 0.5 cm. latis fere erectis crasse carnosis extus glabris brunneo-flavis vel -viridibus intus medio luteo brunneis margine exteriore dilute viridi margine interiore fulvo-brunneo denseque papillato caeterumque glabris, ostio annulo latissime 5-lobo munito; corona propria late patelliformi ca. 0.5 cm. diam. latissime 5-loba margine caeterumque integra vel obscure crenulata dilute viridi; antheris ca. 0.3 cm. stipitatis sub stigma positis appendicibus dorsalibus late lingulatis ca. 0.1 cm. longis integris brunneis, polliniis pyriformibus cum caudiculis hyalinis ca. 0.15 cm. longis corpusculo minuto; stigmate anguste 5-gono plano-depresso angulis adscendentibus ca. 0.4 cm. latis. Folliculi ignoti.—Guatemala: Dept. Huehuetenango: Vicinity of Maxbal, about 17 miles north of Barillas, Sierra de los Cuchumatanes, alt. 1,500 meters, July 15–16, 1942, *J. A. Steyermark* 48768 (Herb. Missouri Bot. Gard., type; duplicate in Herb. Field Mus.).

A species of the subgenus *Eugonolobus* (cf. Woodson, Ann. Missouri Bot. Gard. 28: 242. 1941), of the general relationship of *G. uni-*

florus HBK. and *G. chloranthus* Schlecht. but with much narrower, virtually glabrous corolla lobes. The elaborate description of the flower colors is adapted from Dr. Steyermark's painstaking notes.

CONVOLVULACEAE

Ipomoea santae-rosae Standl. & Steyerm., sp. nov.—Frutex gracilis volubilis fere omnino glaber; folia longipetiolata late ovato-cordata 6–10 cm. longa 3.5–6.5 cm. lata longiacuminata, basi profunde cordata glabra vel subtus ad basin laminae parce hirtella; pedunculi fere obsoleti 1-flori, pedicellis crassiusculis 2–4 cm. longis; sepala insigniter inaequalia subcoriacea, longiora 18–25 mm. longa late oblonga vel ovalia apice obtusa et conspicue mucronata, tenuiter venosa; corolla tubuloso-infundibuliformis 6.5 cm. longa extus glabra rubro-purpurea, tubo fauce 1.5 cm. lato; capsula 4-locularis subglobosa glabra 8 mm. longa; semina 4 fusca minutissime puberula.—Guatemala: Dept. Santa Rosa: In thicket, vicinity of Chiquimulilla, alt. 325 meters, November–December, 1940, *Paul C. Standley* 79287 (type in Herb. Field Mus.), 79211; La Joya de Limón, east of Cuilapa, 900 meters, *Standley* 78329. Dept. Quezaltenango: Concepción, *J. R. Johnston* 562.

Perhaps related, although not very closely, to *I. tiliacea* (Willd.) Choisy, which has sepals scarcely half as large.

Ipomoea saxorum Standl. & Steyerm., sp. nov.—Subgenus *Batatas*. Volubilis herbacea, caulibus crassiusculis dense pilis reflexis pilosis; folia membranacea longipetiolata rotundo-ovata 6–8 cm. longa 5–7 cm. lata, obtusa vel acuta, basi truncata vel subcordata, utrinque sat dense hirtella vel breviter pilosa, subtus paullo pallidiora, petiolis 2–3.5 cm. longis; pedunculi crassi 4–10 cm. longi dense pilosi pluriflori, pedicellis crassis 1.5–2.5 cm. longis pilosis; sepala inaequalia coriacea apice rotundata, exteriora ovalia 5 mm. longa prope apicem parce hirtella, interiora latiora glabra 8 mm. longa; corolla alba glabra 6.5 cm. longa, tubo ad orem 1 cm. lato; capsula subglobosa glabra ca. 1 cm. longa, apice late rotundata et abrupte in stylum contracta; semina glabra.—Guatemala: Dept. Chiquimula: Rocky outcrops along the gorge of Río Chiquimula, between Santa Bárbara and Petapilla, 4–6 miles north of Chiquimula, alt. 350–420 meters, October 22, 1939, *Julian A. Steyermark* 30254 (type in Herb. Field Mus.).

Not obviously related to any other Central American species, but belonging in the general relationship of *I. Morelii* Duchass. &

Walp., which differs in its purple flowers, almost glabrous leaves, and glabrous sepals.

Ipomoea heterodoxa Standl. & Steyerm., sp. nov.—Section *Batatas*. Herbacea volubilis ubique glabra, caulibus gracilibus; folia longipetiolata herbacea, digitatim 5–7-foliolata, foliolis maxime inaequalibus, inferioribus integris breviter petiolulatis vel sessilibus oblanceolatis vel anguste oblanceolatis 4–8.5 cm. longis 8–18 mm. latis apicem obtusum versus paullo angustatis, basin versus sensim attenuatis; foliolum terminale 6–12 cm. longum profunde, saepe fere ad basin, 3-partitum, basi longe cuneato-attenuatum, lobis integris; pedunculi petiolis multo breviores vix ultra 14 mm. longi pauciflori, pedicellis gracilibus ca. 1 cm. longis; sepala inaequalia subcoriacea ovalia vel suborbicularia 5–6 mm. longa apice rotundata mutica; corolla alba roseo suffulta glabra 3.5–4 cm. longa, tubo supra calycem abrupte dilatato et 6–10 mm. lato, limbo ut videtur paullo ultra 1.5 cm. lato; capsula glabra ellipsoideo-ovata ca. 1 cm. longa; semina dense pilis longis mollibus patentibus pilosa.—British Honduras: Maskall, December, 1933, *Percy Gentle* 871 (type in Herb. Field Mus.); Mullins River Road, open forest, *W. A. Schipp* 846; Honey Camp, Orange Walk, *C. L. Lundell* 149.—Mexico: Campeche: Tuxpeña, *C. L. Lundell* 974.

For some reason not now ascertainable, this plant has been determined as *I. dasysperma* Jacq., and reported from British Honduras under that name. It has no close resemblance to that Old World plant, and is well marked in the form of its leaves. The leaflets are 5 or 7, and instead of being uniform as is usual in such cases, the terminal leaflet is very deeply 3-lobate.

Ipomoea ophiodes Standl. & Steyerm., sp. nov.—Subgenus *Pharbitis*. Volubilis herbacea, caulibus crassiusculis, vulgo prostratis vel procumbentibus et at nodos radicantibus dense pilis longis patentibus pallidis hirsutis, internodiis elongatis; folia modica longipetiolata late ovato-cordata 4–10 cm. longa 3–6.5 cm. lata acuta vel acuminata basi profunde cordata supra viridia tactu asperula hirsutula, subtus paullo pallidiora puberula, petiolis puberulis et sparsissime hirsutis; pedunculi brevissimi vix ad 1 cm. longi 1-flori, pedicellis 2.5–3.5 cm. longis gracilibus sparse minuteque puberulis et sparsissime hirsutis; sepala subaequalia subherbacea ca. 12 mm. longa lineari-lanceolata acuminata sparse hirsuta; corolla intense purpurea 8–9 cm. longa extus glabra, limbo subintegro 8 cm. lato.—Guatemala: Dept. Santa Rosa: Brushy hillside, region of La More-

nita, northeast of Chiquimulilla, alt. 400 meters, December, 1940, *Paul C. Standley* 78884 (type in Herb. Field Mus.). Near Guazacapán, 220 meters, *Standley* 78700. Río Panal, lower slopes of Volcán de Tecuamburro, along the road between Cuilapa and Chiquimulilla, *Standley* 78579.

This plant is related, apparently, to *I. purpurea* (L.) Roth, but is noteworthy for its very large and handsome corollas, 1-flowered peduncles, and the dense covering of long spreading hairs on the stems. The pubescence of the leaves, in contrast, consists of very short and inconspicuous hairs.

Itzaea Standl. & Steyerm., gen. nov.—Frutices alte scandentes; folia petiolata crasse membranacea integra, subtus dense sericea; flores parvi virides in cymulas densas pauci- vel multifloras breviter pedunculatas axillares petiolo breviores dispositi; sepala subaequalia suborbicularia apice rotundata vel obtusissima et obscure apiculata, extus sericea intus glabra; corolla campanulata breviter 5-loba extus sericea, lobis induplicato-valvatis; stamina ad faucem affixa breviter exserta, filamentis elongatis basi paullo dilatatis; antherae oblongae, loculis contiguis, connectivo angusto; discus inconspicuus; ovarium 1-loculare 4-ovulatum; styli 2 breves, stigmatibus magnis globoso-capitatis; capsula globosa sublignosa, pericarpio crasso, 3–4-valvata, valvis apice dehiscentibus et in valvulas numerosas lineares secedentibus; semina 3–4 magna glabra pulpo rubro copioso circumdata.

Itzaea sericea (Standl.) Standl. & Steyerm., comb. nov. *Lysiostyles sericea* Standl. Field Mus. Bot. 8: 322. 1931.

Of this plant the following collections are at hand: Honduras: Dept. Atlántida: Lancetilla Valley, *A. M. Chickering* 130, type; Lancetilla Valley, *Standley* 55233, 56577. In forest, slopes of Mount Cangrejal, Dept. Atlántida, 180 meters, *T. G. Yuncker, J. M. Koepper & K. A. Wagner* 8452.—British Honduras: Swamp forest, Machaca, *W. A. Schipp* 1210.

We are somewhat reluctant to establish a new genus for this plant, but it can not be placed satisfactorily in any described group we have studied. Probably it is as closely related to *Lysiostyles* as to any genus of the Convolvulaceae, but it evidently is out of place there. The form of the capsule, which apparently has no fleshy pericarp, is distinctive in its dehiscence. When fully mature it splits into numerous hard but somewhat elastic vertical sections that remind one of the staves of a barrel. The generic name is derived from Itzá, the name of the race that established the old Maya Empire.

Jacquemontia guatemalensis Standl. & Steyerm., sp. nov.—Perennis(?) herbacea, caulibus repentibus ca. 50 cm. longis modice denseve pilis stellatis retrorso-villosis; folia breviter longeve petiolata; lamina late ovata 3.5–4.5 cm. longa 2.5–3 cm. lata subito breviterque caudato-acuminata, basi cordata vel subcordata, utrinque sparse vel densiuscule stellato-pilosa; cymae axillares 2–3-florae, pedunculis gracilibus 1.7–3 cm. longis dense breviterque stellato-pilosulis, pedicellis 4–7 mm. longis; bracteae 1.5–2 mm. longae subulatae; sepala 5.5–6 mm. longa 2 mm. lata dorso modice denseve stellato-pilosa, late lanceolata, acuminata; corolla caerulea glabra 9 mm. longa, lobis abrupte cuspidatis; filamenta prope medium corollae inserta glabra, antheris late oblongis 0.5–0.6 mm. longis; ovarium glabrum; capsula depresso-globosa 3.8–5.5 mm. alta 4.5–6 mm. lata; semina 4 compresso-trigona fulvo-brunnea 3.5 mm. longa corrugata.—Guatemala: Dept. Chiquimula: Creeping among grasses on slopes of grassy plains about Chiquimula, alt. 400 meters, October, 1939, *Julian A. Steyermark* 30066 (type in Herb. Field Mus.).

Most closely related to *J. oaxacana* (Meissn.) Hallier and *J. azurea* (Desr.) Choisy. From the latter it differs in the eglandular pubescence of the sepals, shorter appressed pubescence of the stems, and less abundant pubescence on the leaves. From *J. oaxacana* it is distinguished by the smaller, blue rather than white corolla, the sepals dorsally stellate-pubescent throughout instead of glabrous or merely ciliate, the gradually long-acuminate rather than abruptly acuminate sepals, the shorter peduncles, and the fewer flowers in each cyme.

Jacquemontia mexicana (Loes.) Standl. & Steyerm., comb. nov. *Aniseia mexicana* Loes. Verh. Bot. Ver. Brandenb. 59: 155. 1917.

BORAGINACEAE

Beurreria Quirosii Standl., sp. nov.—Frutex vel arbuscula, ramulis gracilibus fuscis lenticellatis, glabris vel minute adpresso-puberulis; folia inter minora petiolata crasse membranacea, petiolo 5–10 mm. longo; lamina late ovata, elliptica vel rotundato-obovata 3.5–7.5 cm. longa 2.5–3.5 cm. lata, apice subacuta usque rotundata, basi acuta vel obtusa, interdum subabrupte angustata, supra scaberula vel glabrata, subtus sparse puberula vel glabrata, ad costam dense breviter pilosa; inflorescentia terminalis pedunculata pauciflora, floribus sessilibus aggregatis; calyx anguste campanulatus 10–12 mm. longus basi obtusus glaber, lobis triangulari-ovatis 3–4

mm. longis acutis; corolla magna extus sat dense breviter villosula, tubo ca. 3.5 cm. longo fauce 6 mm. lato, lobis late ovatis vel fere rotundatis obtusis 12–14 mm. longis patentibus intus puberulis; fructus late ovoideus 2.5 cm. longus 1.5 cm. latus basi late rotundatus vel cordatus, apice subito acuminatus, segmentis siccis et expansis cordatis marginibus tenuibus late alatis.—Costa Rica: Prov. Puntarenas: Manzanillo, July, 1937, *M. Quirós C.* 740 (type in Herb. Field Mus.). San Lucas, July, 1934, *J. M. Orozco* 348. Between Bagaces and Cañas, May, 1932, *A. M. Brenes* 15604. Near Lepante, June, 1932, *Brenes* 15703. Port Parker, July 4, 1932, *John Thomas Howell* (Herb. Calif. Acad. Sci.).

The fresh flowers are described as creamy yellow. This shrub was reported in *Flora of Costa Rica* as *B. cumanensis* (Loefl.) O. E. Schulz, the material then available consisting of a single specimen in fruit, and not distinguishable from that species of the coast of northern South America. Recent collections show that *B. Quirosii*, although resembling *B. cumanensis* in its fruit, is quite different in flower characters. In the latter the flowers are much smaller, the calyx half as large, and the corolla with a relatively short tube.

SCROPHULARIACEAE

Capraria frutescens (Mill.) Standl., comb. nov.—*Erinus frutescens* Mill. Gard. Dict. ed. 8. no. 4. 1768. *C. saxifragaefolia* Cham. & Schlecht. Linnaea 5: 105. 1830.

Castilleja altorum Standl. & Steyerm., sp. nov.—Subgenus *Hemichroma*. Herba erecta perennis, caulibus simplicibus vel parce ramosis, ramis erectis, pilis brevibus vel longis laxis albis villosis, interdum glabratis, dense foliatis, internodiis brevibus; folia infima anguste lanceolato-oblonga 1–2 cm. longa 2.5–5 mm. lata obtusa sessilia serrata vel laciniato-dentata, mediana paullo latiora saepe profundius laciniata, suprema profunde laciniata, sat dense villosula vel interdum glabrata; flores spicati, spicis brevibus pauci- vel multifloris usque 5.5 cm. longis, floribus sessilibus vel usque 2 mm. longe pedicellatis; bracteae coccineae, inferiores superne laciniato-lobatae, segmentis lateralibus brevibus linearibus, medio late obtuso vel rotundato, superiores late ovatae obtusissimae integrae; calyx 16–20 mm. longus puberulus vel breviter villosulus, antice profunde fissus, postice breviter fissus, lobis brevissime bilobatis; corolla 2–3 cm. longa, galea angustissima incurva dorso villosula; capsula late oblonga ca. 1 cm. longa.—Guatemala: Dept. Huehuetenango: Open

alpine meadows, top of Cerro Chemalito, Sierra de los Cuchumatanes, 3.5 miles west of Santa Eulalia, alt. 3,100–3,150 meters, August, 1942, *Julian A. Steyermark* 49908 (type in Herb. Field Mus.). Alpine areas in vicinity of Tunimá, 3,400–3,500 meters, *Steyermark* 48415, 48414.

The last collection cited has pale orange bracts; in the other two they are scarlet and green. Apparently an isolated and local endemic, not matched by any Mexican species of which we have seen material. Among the few Guatemalan species it may be recognized at once by the small, rather crowded leaves which are serrulate or laciniate-dentate. In the other species the leaves are either entire or deeply pinnatisect, at least in part.

Castilleja communis Benth. forma **Johnstoniae** Standl., f. nov.—A forma typica speciei non nisi bracteis apice pallide luteis vel ochroleucis differt.—Guatemala: Dept. Escuintla: Between Río Jute and Río Pantaleón, on road between Escuintla and Santa Lucía Cotz., in moist field, January 24, 1939, *Paul C. Standley* 63500 (type in Herb. Field Mus.).

In the common and typical form of the species the bracts are tipped with bright red or scarlet. Forma *Johnstoniae* has green bracts that are tipped with pale yellow or cream color. It has been collected in several departments of Guatemala and probably may be found throughout the range of the species. This plant is named for Mrs. John R. Johnston, to whom the writer is deeply indebted for kindly hospitality during his two visits to Guatemala.

MARTYNIACEAE

Martynia confusa (Van Eseltine) Standl. & Steyerm., comb. nov. *Proboscidea confusa* Van Eseltine, N. Y. Agr. Expt. Sta. Techn. Bull. 149: 13. *f. 4.* 1929.

RUBIACEAE

Psychotria altorum Standl. & Steyerm., sp. nov.—Subgenus *Mapouria.* Frutex 1.5–3.5 m. altus ramosus, ramis gracilibus glabris; stipulae caducae distinctae usque 12 mm. longae ferrugineae ovatae vel oblongo-ovatae acuminatae vel apice breviter bilobae, lobis attenuatis ciliatis; folia breviter petiolata, petiolo crassiusculo 5–10 mm. longo vulgo marginato; lamina oblongo-oblanceolata vel anguste oblanceolata 9–12 cm. longa 2–3.5 cm. lata acuta vel obtusa, basin versus longe sensimque attenuata, glabra, supra in sicco

cinereo-viridis, costa prominente, nervis manifestis sed non elevatis, subtus fere concolor, costa crassiuscula prominula, nervis lateralibus utroque latere ca. 10 teneris angulo lato adscendentibus arcuatis; inflorescentia terminalis ovoideo-paniculata multiflora 1.5–5 cm. longe pedunculata erecta, usque 5.5 cm. longa et 5 cm. lata, ramis basalibus ca. 4 divergentibus vel reflexis brevibus crassiusculis glabris, bracteis caducis, floribus dense cymoso- vel umbellato-aggregatis sessilibus vel breviter crasseque pedicellatis; calyx cum hypanthio 2 mm. longus, calyce campanulato hypanthio crasse columnari paullo longiore brevissime remote dentato vel subintegro; corolla alba ca. 5 mm. longa extus glabra, in alabastro apice subtruncata et subangulata, fauce non barbata, lobis oblongis obtusis recurvis tubo fere duplo brevioribus intus glabris; stylus breviter exsertus, apicibus tantum antherarum exsertis; fructus pallide aurantiacus vel ruber subglobosus 6 mm. altus basi et apice rotundatus, pyrenis dorso grosse costatis.—Guatemala: Dept. Quezaltenango: Montaña Chicharro, southeastern slopes of Volcán de Santa María, 2–4 miles south of Santa María de Jesús, 1,400–1,500 meters, January, 1940, *Julian A. Steyermark* 34302 (type in Herb. Field Mus.). Southern slopes of Volcán de Santa María, between Santa María de Jesús and Calahuaché, 1,300–1,500 meters, *Steyermark* 33690. Above Mujuliá, 1,800 meters, damp dense mixed forest on white sand slopes, 1,800 meters, *Standley* 85583. Along old road between Finca Pirineos and Patzulín, 1,200–1,400 meters, *Standley* 86991, 87008. Dept. Suchitepéquez: Southern slope of Volcán de Atitlán, 1,620 meters, in forest, *Skutch* 1486. Dept. San Marcos: Northwestern slopes of Volcán de Tajumulco, 6 miles southwest of Tajumulco, 2,300–2,800 meters, *Steyermark* 36714. Volcán de Tajumulco, Cerro de Mono, 1,400–1,700 meters, *Steyermark* 37388.—Mexico: Chiapas: Volcán de Tacaná, 2,800 meters, *Matuda* 2926.

A relative of *P. flava* Oerst., of Guatemala and southern Mexico, which differs in its much larger, thicker leaves and usually hirtellous panicle branches.

Psychotria clivorum Standl. & Steyerm., sp. nov.—Subgenus *Mapouria*. *P. limonensis* var. *angustifolia* Standl. Field Mus. Bot. 17: 282. 1937.—Frutex 1.5–4.5 m. altus ramosus, ramis subteretibus in statu vivo viridibus in sicco vulgo fuscis, glabris, internodiis brevibus vel elongatis; stipulae caducae usque 1.5 cm. longae ovales vel late ovatae membranaceae ferrugineae glabrae, apice obtusae vel rotundatae et abrupte breviter acuminatae, acumine ipso breviter bilobo; folia magna breviter petiolata herbacea, petiolo 1–2.5

cm. longo saepe fere ad basin marginato; lamina oblongo-oblanceolata vel anguste oblanceolata 13–30 cm. longa 4–5.5 cm. lata, acuminata vel longiacuminata, basin versus longe sensim attenuata, glabra, supra in sicco griseo-viridis, nervis manifestis sed non elevatis, subtus fere concolor, costa tenera prominente, nervis lateralibus utroque latere ca. 20 tenuibus angulo semirecto vel latiore adscendentibus subarcuatis pallidis; inflorescentia terminalis erecta ca. 5 cm. longe pedunculata paniculata dense vel sublaxe multiflora, 4–7.5 cm. longa et usque 7 cm. lata, ramis infimis verticillatis brevibus crassiusculis saepe subreflexis dense minute puberulis, bracteis parvis caducis, floribus cymose aggregatis sessilibus vel brevissime pedicellatis; calyx cum hypanthio 1–1.5 mm. longus, minute puberulus vel fere glaber, calycis limbo ca. 1.5 mm. lato remote brevissime dentato vel subtruncato, dentibus late triangularibus; corolla alba infundibuliformis vix ad 4 mm. longa extus glabra, in alabastro apice late rotundata, lobis reflexis oblongo-ovatis obtusis intus glabris tubo duplo brevioribus, fauce non barbato; apices tantum antherarum exserti, stylo breviter exserto; fructus ovali-globosus glaber ruber 5–6 mm. longus basi et apice obtusus vel subrotundatus, pyrenis dorso grosse obtuseque costatis.—Guatemala: Dept. Suchitepéquez: Finca Mocá, in forest, alt. 1,020 meters, January 7, 1935, *Alexander F. Skutch* 2073 (type in Herb. Field Mus.). Dept. Quezaltenango: Between Finca Pirineos and Finca Soledad, southern slopes of Volcán de Santa María, 1,300–1,400 meters, *Steyermark* 33543. Dept. San Marcos: Río Mopá, below Rodeo, 600 meters, *Standley* 68772, 68783. Finca El Porvenir, along Río Cabús, above Potrero Matasán, Volcán de Tajumulco, 1,000–1,300 meters, *Steyermark* 37628.

From *P. limonensis* Krause the present species differs in its pedunculate rather than sessile inflorescence, as well as in its much narrower leaves. Similar also is *P. flava* Oerst. which has usually hirsutulous panicle branches and usually thicker, yellowish green leaves (in the dry state).

Randia crescentioides Standl., sp. nov.—Ut videtur inermis, ramis crassis nodosis, foliis ad nodos dense congestis numerosis, ramulis gracilibus dense pilis albidis adscendentibus pilosulis; folia petiolata membranacea in sicco laete viridia, petiolo usque 2.5 cm. longo fere ad basin marginato; lamina spathulato-obovata vel spathulato-rotundata 1.5–4.5 cm. longa 1.5–2.5 cm. lata apice late rotundata, interdum brevissime apicata, basi vulgo longe angusteque attenuata, interdum abrupte breviterque decurrens, supra glabra,

subtus concolor, tantum ad costam breviter pilosula; bacca sessilis magna subglobosa fere laevis glabra ca. 3.5 cm. longa et fere 3 cm. lata, basi et apice late rotundata; sepala ad apicem fructus persistentia (bene conservata non visa) ciliata.—Costa Rica: Prov. Guanacaste: Port Parker, July 4, 1932, *John Thomas Howell* (type in Herb. Calif. Acad. Sci.; fragmentary specimen in Herb. Field Mus.).

Unfortunately no flowers are available, for they would help in determining the position of this species. No other North American species has the combination of large fruit and peculiar foliage that characterizes this plant. In general appearance it much suggests *R. Thurberi* Wats., of western Mexico, which might well reach the Pacific coast of Central America, but that has a smaller fruit and leaves clearly different in several respects, especially in their usually emarginate apices. The dense clusters of bright green leaves, crowded at the ends of short stubby branches, suggest *Crescentia*, hence the specific name.

CAPRIFOLIACEAE

Viburnum brunnescens Standl. & Steyerm., sp. nov.—Section *Disjuncta*. Arbor 9–12-metralis, ramulis crassis dense pilis stellatis sessilibus brunnescentibus multiradiatis tomentosis, tomento subadpresso; folia membranacea 1.5–2.5 cm. longe petiolata, petiolo dense stellato-tomentoso; lamina late ovali-ovata, rotundato-ovata vel rhombea 9–14 cm. longa 6.5–10 cm. lata, acuta vel acuminata, basi subrotundata vel saepius late cuneata, in fere toto margine grosse dentata, supra viridis dense molliterque pilis minutis stellatis breviramosis vestita, nervis subimpressis, subtus brunnescens densissime pilis mollibus sessilibus vel breviter stipitatis multiradiatis stellato-tomentosa, costa crassa elevata, nervis lateralibus utroque latere ca. 9 rectis in dentes terminantibus, inferioribus approximatis; pedunculi crassi erecti 5–7 cm. longi, cymis 9–11 cm. latis 5–6-radiatis, radiis ca. 3 cm. longis suberectis arcte minuteque stellato-pubescentibus, pedicellis usque 3.5 mm. longis, bracteis deciduis; calycis tubus 2 mm. longus densissime stellato-tomentosus, dentibus vix ad 1 mm. longis ovatis obtusis stellato-puberulis; corolla fere 4 mm. longa breviter strigosa et minute stellato-puberula; stamina exserta; stylus glaber.—Guatemala: Dept. Huehuetenango: Wet cloud forest, Cruz de Limón, between San Mateo Ixtatán and Nucá, Sierra de los Cuchumatanes, 2,600–3,000 meters, July 31, 1942, *Julian A. Steyermark* 49855 (type in Herb. Field Mus.).

Related to *V. jucundum* Morton as closely as to any species, probably, but in that the pubescence consists of appreciably larger and softer, mostly fulvescent hairs, and the leaves are broadly rounded or subcordate at the base.

Viburnum detractum Standl. & Steyerm., sp. nov.—Section *Disjuncta.* Arbor 7.5 m. alta, ramulis crassis brunneis, novellis primo sparse laxe stellato-pilosis, pilis inaequalibus parvis et multiradiatis vel longis et pauciradiatis vel interdum simplicibus; folia tenuiter membranacea breviter petiolata, petiolo 1.5–2 cm. longo ut ramulis induto; lamina suborbicularis vel rotundato-ovata vulgo 12–15 cm. longa et 9–13 cm. lata obtusa vel breviter acutata, basi late rotundata et breviter cordata, supra viridis glabra vel pilis paucis pauciradiatis hinc inde conspersa, subtus paullo pallidior tantum ad nervos venasque pilis paucis remotis simplicibus vel pauciradiatis induta, inter venas glabra, secus costam saepe dense barbata; cymae densiflorae 5 cm. latae et ultra crasse 3 cm. longe pedunculatae, bracteis basalibus caducis, superioribus linearibus vel lanceolatis subfoliaceis, radiis densissime pilis stellatis multiradiatis velutino-tomentosis.—Guatemala: Dept. Quezaltenango: Volcán de Zunil, upper forested slopes above Fuentes Georginas, alt. about 3,000 meters, January 22, 1940, *Julian A. Steyermark* 34590 (type in Herb. Field Mus.). Dept. San Marcos: Barrancos south and west of Tajumulco, northwestern slopes of Volcán de Tajumulco, 2,300–2,500 meters, February, 1940, *Steyermark* 36582 (sterile).

Of this plant there are available only two collections, one in bud, the other sterile. The foliage is so well marked that there is no doubt that a distinct species is represented, and after all is said, so far as the Central American species of *Viburnum* are concerned, most of the distinguishing characters are those of the leaves. The relationship of this plant is with *V. jucundum* Morton, but it differs from all other species of the section *Disjuncta* in having the leaves glabrous beneath except for a few scattered weak hairs on the nerves and veins.

Viburnum euryphyllum Standl. & Steyerm., sp. nov.—Section *Disjuncta.* Arbor 9-metralis, ramulis crassis densissime tomento subadpresso brunnescenti-griseo obtectis; folia firme membranacea breviter petiolata, petiolo ca. 1.5 cm. longo crasso dense adpresso-tomentoso; lamina rotundato-ovata vel suborbicularis 9–11 cm. longa 7–10 cm. lata acuta vel obtusa, basi late rotundata vel emarginata, supra in sicco griseo-viridis dense pilis minutis pauciradiatis conspersa, nervis venisque impressis, subtus albida densissime mol-

literque stellato-tomentosa, pilis parvis sessilibus multiradiatis, remote denticulata, nervis lateralibus utroque latere ca. 6 elevatis fere rectis in dentes terminantibus, inferioribus 4 approximatis; pedunculi crassi 1–3.5 cm. longi, bracteis deciduis; cymae ca. 10 cm. latae 6–7-radiatae, radiis crassis rectis dense adpresse stellato-tomentosis 1.5–3 cm. longis, floribus breviter pedicellatis vel sessilibus; calycis tubus 2 mm. longus densissime albido-tomentosus, lobis vix 1 mm. longis late ovatis obtusis stellato-puberulis; corolla vix ultra 2.5 mm. longa extus dense vel sparse pubescens; stylus glaber; stamina exserta.—Guatemala: Dept. Huehuetenango: Trail between Tunimá and Quisil, Sierra de los Cuchumatanes, alt. 2,500–3,100 meters, July 8, 1942, *Julian A. Steyermark* 48425 (type in Herb. Field Mus.).

This species also is related to *V. jucundum* Morton, but in that the hairs of the upper leaf surface are much larger, the leaves relatively narrower, and green, not whitish, on the lower surface.

Viburum hondurense Standl., sp. nov.—Section *Disjuncta*. Frutex vel arbor 2–9-metralis, ramis gracilibus dense albido-tomentosis, pilis sessilibus mollibus stellatis multiradiatis albidis; folia breviter petiolata membranacea, petiolo crasso ca. 1 cm. longo; lamina lanceolato-oblonga vel ovato-lanceolata 8–15 cm. longa 2.5–7 cm. lata longiacuminata, basi anguste rotundata vel obtusa, integra, supra viridis saepe lucida, in statu adulto glabra, subtus pallidior sparse denseve stellato-tomentosa, pilis parvis mollibus sessilibus pauci- vel multiradiatis albidis vel pallide brunnescentibus, nervis lateralibus supra subimpressis subtus prominentibus utroque latere 5–6 arcuatis prope marginem conjunctis et non excurrentibus; cymae 4–7 cm. longe pedunculatae 8–10 cm. latae ca. 7-radiatae, bracteis basalibus deciduis, interdum numerosis et foliaceis, lanceolatis vel lineari-lanceolatis 3–3.5 cm. longis, radiis molliter stellato-tomentosis; calycis tubus 2 mm. longus densissime stellato-pilosus, lobis ca. 0.8 mm. longis ovatis obtusis stellato-pubescentibus; corolla 2.5 mm. longa extus glabra vel pilis perpaucis minutis simplicibus vel pauciradiatis conspersa; stylus brevis crassus glaber; stamina bene exserta; fructus immaturus ovalis 5–6 mm. longus stellato-pilosulus. —Honduras: Dept. Comayagua: Open mountain forest, Meambar, alt. 600 meters, July, 1933, *J. B. Edwards* P-636 (type in Herb. Field Mus.). El Achote, near Siguatepeque, 1,500 meters, February, 1928, *Standley* 56154 (sterile); in 1936, *Yuncker, Dawson & Youse* 5824, 5969, 5833.

All these collections were determined originally as *V. discolor* Benth. They are related to that species, but still more closely to *V. disjunctum* Morton, of Guatemala. The latter differs in having abundant minute stellate hairs on the upper leaf surface and in several other respects.

CUCURBITACEAE

Ahzolia Standl. & Steyerm., gen. nov.—Herbae scandentes fere glabrae; folia longipetiolata membranacea basi profunde cordata angulata vel breviter 5-lobata, interdum fere integra, marginibus remote minuteque denticulatis; cirrhi 3-fidi; flores dioici(?) 4–5-meri viridescenti-albi parvi, masculi racemosi vel saepius anguste paniculati, paniculis vulgo foliis longioribus multifloris, pedicellis capillaribus; receptaculum pateriforme 8–10-radiatum sub apice 8–10-foveolatum, dentibus minutis vel subnullis; corolla fere rotata ad medium 4–5-lobata, lobis late ovatis extus interdum tomentulosis; filamenta usque ad medium in columnam gracilem coalita, supra medium radiatim divaricata, antheris 4–5 suborbicularibus 2-locularibus, loculis flexuosis; flores feminei non visi; fructus magnus carnosus monospermus indehiscens obovoideus laevis vel plus minusve sulcatus, in sicco 10-cristatus.

A single species is known, described originally, without fruit, as a species of *Microsechium*. Presumably this new genus belongs in that alliance, but it differs conspicuously in its large fruits, which are suggestive of those of *Sechium*, so much so that it was supposed at first by the writers that the plant might be the wild form of that commonly cultivated plant. The fruits of *Microsechium* also are aculeate, and in that genus the flowers are mostly or all 4-parted, while in *Ahzolia* they are typically 5-parted. It is presumed that the flowers are dioecious, since no pistillate flowers are present on any of the numerous staminate specimens at hand.

The generic name is derived from Ahzol, the name of one of the leaders of the Guatemalan army of Tecúm Umán, who died in the bloody battle at the Río Xequijel near Olintepeque, where the valiant Indian hosts were overwhelmed by Pedro de Alvarado and his Mexican mercenaries.

Ahzolia composita (Donn. Smith) Standl. & Steyerm., comb. nov. *Microsechium compositum* Donn. Smith, Bot. Gaz. 35: 2. 1903.—The type was collected at Malpaís, Santa Rosa, Guatemala. The following additional collections are now available: Guatemala:

Dept. Santa Rosa: Río Panal, lower slopes of Volcán de Tecuamburro, *Standley* 78581. Dept. Escuintla: Between Río Jute and Río Pantaleón, on road between Escuintla and Santa Lucía Cotz., *Standley* 63566, 63514, 63550. Dept. Suchitepéquez: Lower slopes of Volcán de Zunil, *Steyermark* 35417. Dept. Quezaltenango: Vuelta del Tigre, below Santa María Jesús, *Standley* 68157, 68166. Finca Pirineos, *Standley* 68392. Colomba, *Skutch* 2042.—Mexico: Escuintla, Chiapas, *Matuda* 2151.

This vine is abundant in many ravines of the Pacific slope of Guatemala, often forming dense tangles of stems over tall trees. The large fruits, similar to those of *Sechium*, are borne in great quantities, and cover the ground beneath the vines during the dry season. They wither very slowly and retain their succulent but hard flesh for a long time. The local name is Huisquil de ratón, and in Quezaltenango the Indian name Ixmaxín is given to the plant and its fruit.

Corallocarpus guatemalensis Standl. & Steyerm., sp. nov.—Frutex elongatus ramosus, caulibus crassis lucidis, internodiis longis; petioli 2.5–5 cm. longi crassi glabri vel glabrati; lamina ambitu rotundo-cordata 6–12 cm. longa 6.5–11 cm. lata apice obtusissima, basi profunde cordata sinu angusto latove, integra, interdum obtuse 3-angulata, supra viridis minute densissime scabra, tactu aspera, subtus ubique dense albo-tomentosa, basi pedatim 5-nervia.—Guatemala: Dept. Zacapa: In hedge, common, vicinity of Zacapa, alt. 200 meters, October, 1940, *Paul C. Standley* 74623 (type in Herb. Field Mus.). Dept. Chiquimula: Rocky outcrops along gorge of Río Chiquimula, between Santa Bárbara and Petapilla, 4–6 miles north of Chiquimula, alt. 350–420 meters, *Steyermark* 30258.

The two collections unfortunately are sterile, but there is little doubt that a distinct and undescribed species is represented, of which it is not likely that good material will be obtained soon. The plant is similar to *C. hypoleucus* Standl. of western Mexico, but in that the leaves are more conspicuously lobate and they are glabrous on the upper surface.

Cyclanthera Steyermarkii Standl., sp. nov.—Herba scandens ramosa, caulibus glabratis vel in statu juvenili sparse villosulis; folia breviter petiolata tenuia breviter petiolata, petiolo 1–5 cm. longo glabrato, apice puberulo vel breviter villosulo; lamina ambitu late ovato-cordata vel triangulari-cordata 8–14 cm. longa et 6–10 cm. lata acuminata, basi profunde cordata, breviter 3-loba vel inter-

dum fere elobata et tantum angulata, marginibus remote denticulatis, supra minute scaberula tactu vix asperula, subtus fere glabra laevis; cirrhi 2-fidi; racemi masculi vulgo petiolis breviores vix ultra 6 cm. longi remote multiflori fere ad basin floriferi, pedicellis filiformibus plerumque 3–4 mm. longis patulis fere glabris; receptaculum glabrum fere rotatum vix ultra 2 mm. latum, dentibus minutissimis vel obsoletis; corolla lutescenti-viridis extus fere glabra, segmentis ovato-triangularibus subacutis 2 mm. longis patentibus; pedunculus femineus ca. 3.5 cm. longus crassiusculus glaber; ovarium dense echinatum gibbosum longirostratum; corolla floris feminei ca. 4 mm. lata; fructus 2–3 cm. longus ubique densissime echinatus, rostro usque ad 1 cm. longo, aculeis rigidis 2–3 mm. longis inferne valde dilatatis.—Guatemala: Dept. Quezaltenango: In forest, Volcán de Santa María, above Santa María de Jesús, alt. about 2,300 meters, January, 1940, *Julian A. Steyermark* 34047 (type in Herb. Field Mus.); also no. 34039. Cumbre de Tuilacán, southwest of San Martín Chile Verde, 2,400 meters, *Standley* 67777, 67773. Mountains southeast of Palestina, 2,700 meters, *Standley* 66342. Dept. Chimaltenango: Slopes of Volcán de Acatenango, in *Chiranthodendron* forest, 2,700 meters, *Standley* 61828, 61918.

Related to *C. explodens* Naud., which also occurs in Guatemala, but in that the fruits are borne on short thick peduncles, and they bear only a few, much longer prickles, the basal portion of the fruit being usually unarmed.

Elaterium macrophyllum Standl. & Steyerm., sp. nov.—Herba scandens elongata laxe ramosa, caulibus sat dense pilis albis laxis villosulis vel subtomentosis; folia tenuiter membranacea supra intense viridia subtus paullo pallidiora, petiolis gracilibus villosulis 2–6 cm. longis sustenta, ambitu rotundo-ovata vel triangulari-cordata vulgo 7–12 cm. longa et 6–9.5 cm. lata, acuta vel acuminata, margine subintegro vel remote denticulato, subintegra vel saepius obtuse angulata, supra scaberula vel fere glabra, subtus dense molliterque villosula vel interdum subtomentosa, sinu basali rotundato et vulgo clauso; inflorescentiae masculae (valde immaturae tantum visae) petiolis breviores ca. 4-florae ut pedicelli graciles inaequales dense albo-villosae; pedunculus femineus ca. 12 mm. longus albo-tomentosus; ovarium oblique ovoideum 4 mm. longum densissime setulosum fere tomentosum; receptaculum 15 mm. longum apice 4 mm. latum sparse pubescens vel villosulum prope medium 2 mm. latum; sepala filiformia 1–2 mm. longa patentia vel reflexa; petala lineari-attenuata 12 mm. longa minute papillosa.—Guatemala: Dept.

Baja Verapaz; Thickets above Panzal, alt. 1,400 meters, April, 1907, *H. von Tuerckheim* II.1728 (type in Herb. Field Mus.). Dept. Retalhuleu: Along Río Samalá near San Felipe, 500 meters, *Steyermark* 34552. Dept. Suchitepéquez: Finca Las Nubes, lower slopes of Volcán de Zunil, 500–800 meters, *Steyermark* 35391. Dept. Quezaltenango: Between Finca Pirineos and Los Positos, lower slopes of Volcán de Santa María, 1,300–1,500 meters, *Steyermark* 33737. Between Colomba and Las Mercedes, 600–900 meters, *Standley* 87970. Dept. San Marcos: Volcán de Tajumulco, 1,300–1,500 meters, *Steyermark* 37504, 37663.

A close relative of this plant is the Mexican *E. longisepalum* Cogn., but in that the stems and lower leaf surfaces are glabrous. The Guatemalan plant has larger and more densely pubescent leaves than most species of the genus. While most of the collections cited above are sterile, they are easily associated by their remarkably uniform and distinctive foliage.

Sicydium glabrum Standl. & Steyerm., sp. nov.—Herba scandens, caulibus gracilibus obtuse angulatis glabris vel glabratis; folia 2–2.5 cm. longe petiolata firme membranacea ovata vel oblongo-ovata 7–11 cm. longa 3–6 cm. lata longiacuminata, basi profunde cordata, sinu lato aperto, integra, pedato-7-nervia, laxe venosa, utrinque glabra vel glabrata, subtus punctata; panicula mascula diffuse ramosa 8–14 cm. longa, ramis gracillimis saepe reflexis, basi bractea foliis conformi sed reducta sustenta, ramis vulgo fere omnino glabris, pedicellis capillaribus usque ad 3 mm. longis glabris vel minutissime puberulis supra medium articulatis; flores fere glabri 3 mm. lati; sepala late ovata obtusa; corollae segmenta ovato-triangularia viridia fere 2 mm. longa ciliolata; filamenta antheris aequilonga; inflorescentia feminea laxe ramosa 15 cm. longa, pedicellis crassis brevibus; fructus globosus 7 mm. longus, basi abrupte angustatus.—Guatemala: Dept. Quezaltenango: Montaña Chicharro, lower southeastern slopes of Volcán de Santa María, alt. 1,400–1,500 meters, January 17, 1940, *Julian A. Steyermark* 34273 (type in Herb. Field Mus.). Between Finca Pirineos and Los Positos, 1,300–1,500 meters, *Steyermark* 33756. Between Finca Pirineos and Finca Soledad, 1,300–1,400 meters, *Steyermark* 33573. Dept. Suchitepéquez: Southwestern lower slopes of Volcán de Zunil, 1,200–1,300 meters, *Steyermark* 35207.

Of the two other Guatemalan species, *S. tamnifolium* HBK. is distinguished by its densely and softly pilose leaves and *S. Tuerck-*

heimii Donn. Smith by its more or less coriaceous leaves, very scabrous and rough to the touch on the upper surface.

Sicyos guatemalensis Standl. & Steyerm., sp. nov.—Scandens, caule gracili sparse albo-villoso ramoso; petioli foliorum superiorum 1 cm. longi vel breviores, foliorum inferiorum magis elongati; lamina ambitu rotundo-cordata ca. 6 cm. longa et aequilata basi profunde cordata, sinu lato aperto 1.5 cm. profundo, breviter 3–5-loba vel subintegra, lobis ovato-triangularibus acutis vel caudato-acuminatis, terminali longiore, marginibus repando-dentatis, utrinque sparse villosula et plus minusve scabra; cirrhi 2-fidi vel interdum simplices; pedunculi masculi 4–10 cm. longi pilis longis albis sparse villosi, apice racemose ca. 10-flori, pedicellis usque ad 5 mm. longis villosis; receptaculum late campanulatum basi late rotundatum sparse laxe villosum, dentibus 5 brevibus suberectis; corolla ca. 8 mm. lata subrotata breviter 5-loba, lobis 5-nerviis late triangulari-ovatis subacutis intus dense glandulosis extus dense longivillosis; filamenta brevia glabra; pedunculus femineus fere nullus pauciflorus, floribus sessilibus vel subsessilibus; fructus ovoideus inermis 5–6 mm. longus sparse longivillosus vel in statu adulto glabratus subacutus.—Guatemala: Dept. Jalapa: Vicinity of Jalapa, alt. 1,300 meters, November 28, 1939, *Julian A. Steyermark* 32140 (type in Herb. Field Mus.). Near Jalapa, January, 1908, *W. A. Kellerman* 8083.

In Cogniaux's key to the species of *Sicyos* in DeCandolle's *Monographiae Phanerogamarum,* this runs at once to *S. gracillimus* Cogn., a Peruvian species that differs in several respects from the Guatemalan plant. The subsessile upper leaves distinguish it from all or most of the Mexican and Central American species. The fruiting heads are almost wholly concealed by the large subtending leaves.

Tecunumania Standl. & Steyerm., gen. nov.—Herbae scandentes scaberulae; folia longipetiolata 5-lobata basi profunde cordata, lobis remote et minutissime denticulatis, petiolo eglanduloso apice dense villoso; cirrhi 2-fidi; flores dioeci majusculi lutei, masculi in axillis solitarii pedunculati; receptaculum campanulatum vel anguste campanulatum; sepala 5 linearia remota basi vix dilatata valde elongata et receptaculo vulgo longiora; corolla sparse villosula vel glabrata profunde 5-lobata, segmentis obovatis patentibus apice rotundatis et apiculatis intus glabris 5-nerviis; stamina 3, filamentis in columnam conicam coalitis; antherae inclusae in capitulum subglobosum cohaerentes 2-loculares, loculis elongato-linearibus tri-

plicatis; flores feminei ignoti; fructus magnus subglobosus longipedunculatus laevis basi et apice rotundatus; semina numerosa parva horizontalia vix marginata compressa ovalia pallide ochracea laevia, basi et apice rotundata vel obtusissima.—A single species is known, native in mountain forests of western Guatemala. It is referable to the tribe *Cucumerineae*, and has some relationship with the African genus *Adenopus*, but it bears no close similarity to any of the other cucurbitaceous genera of Central America. The generic name is derived from that of Tecún Umán, hero and leader of the Indians of western Guatemala, who fought so heroically to resist the Spanish invaders, but were finally overthrown and dispersed in a bloody battle near the site of the present city of Quezaltenango. The river on whose banks the battle was fought has ever since been known by an Indian name signifying "River of Blood" because of the carnage of that eventful day in Central American history.

Tecunumania quetzalteca Standl. & Steyerm., sp. nov.—Herba scandens elongata, caulibus crassiusculis glabris ad nodos dense villosis; folia longipetiolata, petiolo 4–8 cm. longo glabro, apice densissime lanato vel villoso; lamina 9–19 cm. longa et fere aequilata, ad medium vel saepe brevius 5-lobata, sinu basali 2–3 cm. profundo et vulgo latiore, membranacea, supra sparse scaberula, subtus vix pallidior densius minuteque scaberula, lobo terminali ovato vel triangulari, acuto vel acuminato, lobis lateralibus multo brevioribus, acutis vel obtusis, extimis saepe basi auriculatis, marginibus subintegris vel remote et minutissime denticulatis; pedunculi masculi 1.5–3 cm. longi glabri; receptaculum glabrum 10–13 mm. longum ca. 8 mm. latum costato-nervosum; sepala linearia 15–20 mm. longa patentia vel interdum reflexa vix ultra 1 mm. lata attenuata viridia; corolla fere rotata 5 cm. lata, lobis latis breviter mucronatis vel cuspidatis; tubus staminalis ca. 7 mm. longus, capitulo antherarum ca. 8 mm. longo; fructus subglobosus intense viridis 7.5 cm. longus et fere aequilatus laevis lucidus; semina ca. 6 mm. longa atque 4 mm. lata.—Guatemala: Dept. San Marcos: Wet forest, Finca Vergel, near Rodeo, alt. about 900 meters, March 15, 1939, *Paul C. Standley* 68931 (type in Herb. Field Mus.). Southern slopes of Volcán de Tajumulco, above Finca El Porvenir, *Steyermark* 37392. Dept. Quezaltenango: Lower southern slopes of Volcán de Santa María, 1,300–1,500 meters, *Steyermark* 33727, 33625. Dept. Suchitepéquez: Lower slopes of Volcán de Zunil, 1,200–1,300 meters, *Steyermark* 35200, 35225.

The local names are Melocotón and Melocotón de monte, the former term being usually applied in Guatemala to *Sicana odorifera*, a cultivated plant of this family. The vine is abundant in many places in the dense wet mixed forests of the mountains of the Occidente of Guatemala, and it is to be expected in adjacent Chiapas.

LOBELIACEAE

Lobelia laxiflora HBK. forma **lutea** Standl. & Steyerm., f. nov. —A forma typica speciei corollis luteis vel pallide luteis tantum difert.—Guatemala: Moist thicket above Santa María de Jesús, Quezaltenango, alt. 1,650 meters, March 1, 1939, *Paul C. Standley* 67195 (type in Herb. Field Mus.). Moist forest, Volcán de Agua, Dept. Sacatepéquez, 2,250–3,000 meters, February, 1939, *Standley* 65175.

This color form, strikingly different from the usual plants with red and yellow flowers, appears to be rare, and only two plants were noted during two seasons spent by the senior author in Guatemala.

COMPOSITAE

Ageratum chortianum Standl. & Steyerm., sp. nov.—Frutex 1.3 m. altus, ramulis dense pilis brevibus antrorsis adpressis griseo-velutinis; folia opposita 5–8 mm. longe petiolata; lamina lanceolata 3.5–6 cm. longa 1–1.7 cm. lata subcoriacea penninervia, nervis 2–3-jugis, obtusa vel subacuta, basi cuneata, integra, supra rugoso-reticulata et sparse scaberula, subtus dense griseo-velutina; capitula ca. 10 corymbosa, pedicellis 4–5 mm. longis; involucrum campanulatum 4–5 mm. altum 5–7 mm. latum, bracteis ca. 3-seriatis, extimis brevissimis, anguste lanceolatis vel lineari-lanceolatis, attenuatis, 2–3-costatis, dorso pilis brevibus incurvis adpresso-hirtellis; receptaculum obtuse conicum; corollae pallide lilacinae 2.2–2.5 mm. longae, lobis ovato-lanceolatis 0.4 mm. longis apice minute hirtellis, fauce sparse piloso et glandulis sessilibus consperso; achaenia immatura brunnescentia glabra 2 mm. longa fusiformi-cylindracea 5-angulata; pappus e corona breviter 5-loba 0.2 mm. alta compositus.—Guatemala: Dept. Chiquimula: At base of high bluffs, Montaña Castilla, near Montaña Cebollas, along Río Santa Lucía Saso, southeast of Quezaltepeque, alt. 1,200–1,500 meters, November, 1939, *Julian A. Steyermark* 31269 (type in Herb. Field Mus.).

Related to *A. Standleyi* Robinson, but differing in its longer petioles, longer, lanceolate not ovate leaves, which are penninerved rather than 3-nerved and eglandular on the upper surface, and in the more densely pubescent young stems and lower leaf surfaces.

Cacalia guatemalensis Standl. & Steyerm., sp. nov.—Herba perennis, caule crasso 1.2 m. alto striato glanduloso-puberulo; folia caulina sessilia, supra pallido-viridia subtus albida, ovato-oblonga, usque 25 cm. longa atque 10–13 cm. lata, obtusa, basi subamplexicauli-cordata, ca. 9-loba vel grosse inaequaliter dentata, lobis inaequaliter dentatis, dentibus magnis acutiusculis vel subobtusis, supra puberula et glandulosa, subtus dense albo-lanata; inflorescentia thyrsoideo-paniculata, paniculis 8–10 cm. longis 6–8 cm. latis, dense glanduloso-puberulis, pedunculis et pedicellis glanduloso-tomentulosis 1–2-bracteolatis; capitula numerosa turbinato-cylindracea discoidea 5–9-flora, 9–14 mm. alta 3.5–6 mm. crassa; involucrum 8–10 mm. altum, bracteis exterioribus 1–2 linearibus vel linearilanceolatis 4–5 mm. longis, bracteis principalibus 5 lanceolatis vel lineari-lanceolatis acutis scariosis dorso glanduloso-puberulis; corollae purpureae 9–10 mm. longae; achaenia glabra elliptico-linearia apice rotundata, basin versus attenuata, straminea, ca. 16-costata; pappi setae breves albae numerosae dense setuloso-serrulatae.—Guatemala: Dept. Jalapa: Summit of Buena Vista, Montaña Miramundo, between Miramundo and Buena Vista, between Jalapa and Lago de Ayarza, alt. 2,000–2,200 meters, December, 1939, *Julian A. Steyermark* 32823 (type in Herb. Field Mus.).

The species belongs to the group *Odontotrichum* as defined by Rydberg (Bull. Torrey Club 51: 310. 1924). It is related to *C. ampullacea* Greenm. and *C. amplifolia* DC. From *C. ampullacea* it differs in its white rather than tawny pappus, glandular-puberulent involucral bracts and peduncles, glabrous achenes, and thyrsoid rather than corymbose inflorescence. From *C. amplifolia* it differs in its white-lanate lower leaf surface, larger heads in a thyrsoid rather than corymbose inflorescence, and glandular-puberulent bracts, pedicels, and stems.

Gnaphalium Standleyi Steyermark, sp. nov.—Annua acaulis vel subacaulis 1–4.5 cm. alta dense albo-lanata; folia plerumque basalia et rosulata, elliptico-obovata vel oblanceolata 6–18 mm. longa 4–6 mm. lata, apice rotundata, obtusa vel subacuta, saepe breviter nigro-cuspidata, basin versus attenuata, foliis caulinis (interdum nullis) 2–3 utrinque arcte albo-lanatis; capitula parva basi lanata in inflorescentias terminales spicato-fastigiatas aggregata, inflorescentiis 6–25 mm. longis 5–13 mm. latis; involucrum 4-seriatum fulvum lucidum 3.5–4 mm. altum 3 mm. latum profunde campanulatum, bracteis 24–26 apice brunnescentibus 2–3.8 mm. longis 0.9–1.5 mm. latis, exterioribus ovatis acutis, interioribus

oblanceolatis vel spathulatis subacutis basi lanata excepta glabris; flores hermaphroditi 65–70 angusti 2.3–2.6 mm. longi 0.1–0.2 mm. lati, basin versus sensim dilatati, limbo tubo gracili vix distincto; pappi setae basi ipsa coalitae, ad anthesin 2.5 mm. longae filiformes remote serrulatae; achaenia immatura fusco-brunnea angulata hispidulo-tuberculata 0.8–0.9 mm. longa.—Guatemala: Dept. Huehuetenango: Alpine meadows, region of Chémal, Sierra de los Cuchumatanes, alt. about 3,300 meters, December 28, 1940, *Paul C. Standley* 81097 (type in Herb. Field Mus.). Dept. San Marcos: Upper slopes of Volcán de Tacaná, alt. 4,100–4,400 meters, February, 1940, *Steyermark* 36112.

This diminutive plant belongs to the section *Gamochaeta*, with its combination of hispidulous achenes and its pappus bristles united at their base into a ring. In general appearance it simulates *G. purpureum* L. It may be distinguished from all other Central American and Mexican species by its subacaulescent habit, dwarf size, and small heads in a dense spicate-fastigiate inflorescence.

Hieracium culmenicola Standl. & Steyerm., sp. nov.—Herba perennis, caule 1, 45–60 cm. alto, caudice apice sparse pilis fulvis obtecto; folia radicalia ad anthesin vulgo deficientia oblanceolata vel lineari-spathulata; caulis 3–4-foliatus sparse et inaequaliter minute lanuginosus, axillis inferioribus densius lanuginosis, superne setulosus atque plus minusve stipitato-glandulosus; folia caulina inferiora mediaque membranacea anguste oblanceolata vel lineari-lanceolata, infima in petiolum angustata, media sessilia, acuta, apice calloso, 6–17 cm. longa 7–20 mm. lata, utroque margine dentibus 7–9 callosis onusta, supra sparse pilosa vel glabrata, subtus praesertim ad costam sparse vel modice pilosula, interdum glabrata; inflorescentia laxe corymbosa; capitula 2–4 modica 58–80-flora, ramis floriferis 13–30 cm. longis; pedunculi adscendentes 5.5–9 cm. longi dense sordido-tomentulosi, pilis subadpressis incurvis, sparse praesertim superne pilis glanduliferis pilosi; involucrum 3-seriatum 10–11 mm. altum 7–11 mm. in statu fructifero latum, bracteis 3–4, exterioribus brevibus lineari-triangularibus, interioribus lineari-lanceolatis intense viridibus ad costam basinque pilis setiformibus adscendentibus nigris 1–2 mm. longis pilosis, marginibus subscariosis; corollae luteae 12–13 mm. longae, lamina 6–7 mm. longa 1.5 mm. lata 5-denticulata, lobis linearibus obtusis glabris, tubo 5–6 mm. longo glabro; achaenia immatura rufo-brunnea ad angulos minute antrorso-hispidula, ca. 8-costata; pappi setae sordidae 4.5–5.5 mm. longae barbellatae.—Guatemala: Dept. Quezaltenango: Uppermost ridge of Volcán de

Santo Tomás, alt. 3,000–3,200 meters, January 22, 1940, *Julian A. Steyermark* 34815 (type in Herb. Field Mus.). Moist pine slopes toward the top of Volcán de Santa María, alt. about 3,900 meters, *Steyermark* 34154. Dept. San Marcos: Upper south-facing slopes of Volcán de Tajumulco, between Las Canojas and top of the ridge, alt. 3,300–3,900 meters, *Steyermark* 35895.

This species is characterized by its combination of black-hairy involucral bracts, few heads, and long narrow leaves that are short-pilose or pilosulous.

Hieracium guatemalense Standl. & Steyerm., sp. nov.—Acaulis vel subacaulis perennis caespitosa; rhizoma crassum sublignosum vulgo ramosum, dense inter bases persistentes foliorum fulvo-lanatum; folia radicalia ad anthesin 6–12 lineari-lanceolata vel lineari-oblanceolata obtusa calloso-apiculata, 4.5–13 cm. longa (basi petioliformi inclusa), 4–8 mm. lata, utroque latere dentibus 4–5 obtusis callosis runcinatis onusta, ad basin petioliformem densissime insigniter fulvo-lanata, lamina firme membranacea, supra intense viridi subtus pallidiore, supra glabra vel glabrata subtus sparse villosa, marginibus inconspicue remoteque ciliolatis; folia caulina 1 vel 0 linearia 1–2 cm. longa 1–2 mm. lata, bracteis caulinis linearibus vel lineari-setaceis 4–8 mm. longis 0.1–1.5 mm. latis breviter ciliatis utrinque praesertim basin versus villosis; caulis monocephala gracilis 4–15 cm. longa longivillosa, pilis pro parte sordidis albidis pro parte glanduliferis et 0.5–5 mm. longis; capitula majuscula 17–25 mm. lata; involucrum turbinato-hemisphericum ca. 3-seriatum, bracteis acutis vel acuminatis 4.5–13 mm. longis 1–1.5 mm. latis, triangulari-lanceolatis vel oblongo-lanceolatis, dense pilis sordidis basi nigrescentibus albidis 3–5 mm. longis villosis, dorso ad margines apicemque papillosis; flores numerosi bene exserti laete lutei, corollis 13 mm. longis, tubo 4.5–5 mm. longo superne sparse pilosulo, lamina oblonga 8–9 mm. longa 2.5–2.7 mm. lata 5-dentata, dentibus triangulari-oblongis obtusis; achaenia columnaria intense rubro-brunnea 2 mm. longa apice truncata, basi paullo angustata, ca. 10-costata, ad angulos minute tuberculata; pappi setae pallide fulvae vel sordido-albidae 5–6 mm. longae barbellatae.—Guatemala: Dept. Quezaltenango: Dry rocky edge of barranco, uppermost ridge to summit of Volcán de Zunil, alt. 3,000–3,800 meters, January 22, 1940, *Julian A. Steyermark* 34860 (type in Herb. Field Mus.). Dept. San Marcos: Rocky cliffs at top of trail between San Sebastián and Todos Santos, upper slopes of Volcán de Tajumulco, alt. 3,000–3,800 meters, *Steyermark 36939*.

A very distinct species, belonging to section *Aurelliformia*. It is related to *H. Skutchii* Blake, from which it differs in its acaulescent or subacaulescent, naked or almost naked stems which are shorter and more densely lanulose in the upper part and at the very base, the cauline leaves only one or none, narrower basal leaves more pointed at the apex and with more callous projections on the margins, and in its more densely hairy involucre.

Hieracium jalapense Standl. & Steyerm., sp. nov.—Perennis herbacea prope basin ramosa 50 cm. alta; caulis purpurascens praesertim basin versus foliatus, prope basin pilis deflexis 3–4 mm. longis villosus, superne pilis brevibus curvis plus minusve adpressis et aliis brevibus glanduliferis pubescens, ramis floriferis dense glanduloso-tomentulosis; folia radicalia vulgo ad anthesin persistentia elliptico-lanceolata vel oblongo-oblanceolata, subobtusa et mucronata, basin versus paullo angustata, 6–8 cm. longa 1.5–2 cm. lata, dentibus utroque latere ca. 7 remotis inconspicuis; folia caulina 5–6 lanceolata subacuta calloso-apicata, basi sessili subamplexicaulia, 5.5–7.5 cm. longa 10–12 mm. lata, utrinque modice denseve villosula atque sparse pilis albis villoso-setosa; inflorescentia corymbiformis 2–2.5 cm. longa 2–3 cm. lata, ramis ultimis 8–9 cm. longis, capitulis 5–9 modicis ca. 30-floris, pedunculis dense pilis glanduliferis 0.5 mm. longis tomentosis; involucrum 2–3-seriatum 8–9 mm. altum 5–8 mm. in statu fructifero latum, bracteis ca. 19–21, exterioribus lineari-triangularibus brevibus, interioribus lineari-lanceolatis fusco-viridibus subacutis, praesertim ad costam pilis atro-sordidis adscendentibus 0.8 mm. longis setulosis; corollae luteae 7.5–8.5 mm. longae, lamina 4.5–5 mm. longa, tubo 3–3.5 mm. longo; achaenia nigro-brunnea vel nigra sursum non attenuata, 3.5–3.8 mm. longa 10-costata, antrorse minute tuberculato-hispidula; pappus sordidus 4.5–5 mm. longus barbellatus.—Guatemala: Dept. Jalapa: Grassy places along trail in pine-oak forest near summit, between Miramundo and summit of Montaña Miramundo, between Jalapa and Mataquescuintla, 6 miles north of Miramundo, alt. 2,000–2,500 meters, December 5, 1939, *Julian A. Steyermark* 32767 (type in Herb. Field Mus.).

This has somewhat the habit of *H. Selerianum* Zahn but lacks the dense floccose tomentum on the lower leaf surfaces. It appears to be a member of section *Intybiformia*, since the achenes are not attenuate upward. The few-headed corymbs, leaves sparsely or moderately villous, and stems with branches arising near the base are distinctive characters of this species.

Hieracium minarum Standl. & Steyerm., sp. nov.—Perennis herbacea 45–96 cm. alta, caule solitario; rhizoma breve; folia radicalia vulgo ad anthesin deficientia, in plantis juvenilibus elliptico-oblonga vel obovato-oblonga, apice obtusa vel rotundata, subtus pilosa; caulis infra medium foliatus, foliis interdum tantum 1–2, infra inflorescentiam simplex, inferne sparse vel modice pilosus, superne adpresso-pilosulus atque sparse stipitato-glandulosus; folia inferiora et media 6–7 vel 1–2, oblanceolata vel oblongo-lanceolata, inferioribus in basin subpetioliformem angustatis, superioribus mediisque sessilibus et basi subrotundatis, infimis apice rotundatis vel obtusis, aliis acutis vel acuminatis, 3–10.5 cm. longis 1–2.7 cm. latis, utroque latere dentibus 2–8 angustis callosis onustis, supra sparse vel modice pilis 1.5–5.5 mm. longis pilosis, subtus pilis brevibus curvis modice adpresso-pilosulis; capitula numerosa 45–50 vel interdum tantum 12, inflorescentia laxa elongato-racemoso-corymbosa 15–30 cm. longa 4–9 cm. lata, floribus ca. 23–26; pedunculi graciles divaricato- vel arcuato-adscendentes 1–5 cm. longi modice denseve stipitato-glandulosi et adpresso-pilosuli, pedicellis glanduloso-puberulis 5–20 mm. longis; involucrum ca. 2-seriatum 7–10 mm. altum 5–10 mm. in statu fructifero latum, bracteis 18–21, exterioribus brevibus triangularibus, interioribus lineari-lanceolatis, cuspidatis vel caudatis modice stipitato-glandulosis praesertim ad basin et ad partem inferiorem costae, aliter glabris, marginibus subscariosis; corollae luteae 8–10 mm. longae, lamina 4–5.5 mm. longa 1–1.2 mm. lata 5-denticulata, lobis linearibus obtusis glabris, tubo ca. 4 mm. longo dorso praesertim inferne pilosulo; achaenia immatura fusca vel castaneo-brunnea 3 mm. longa utrinque plus minusve attenuata, 8-costata, minute antrorse tuberculato-hispidula; pappus fulvus 3–6 mm. longus barbellatus.—Guatemala: Dept. Zacapa: Pine-covered slopes, Sierra de las Minas, along trail between Río Hondo and summit at Finca Alejandría, alt. 1,000–1,500 meters, October 11, 1939, *Julian A. Steyermark* 29722 (type in Herb. Field Mus.); also no. 29688. Dept. Chiquimula: South-facing open grassy upper pine-clad slopes, Cerro Tixixí, 3–5 miles north of Jocotán, alt. 500–1,500 meters, *Steyermark* 31653.

By its combination of short pubescence, elongate subcylindric paniculate inflorescence, and short-pubescent leaves, this appears distinct from other species of Mexico and Central America. It seems to belong to section *Pulmonareiformia*, and is the first species of this group to be found outside Atlantic North America. In general appearance it suggests *H. Gronovii* L. of the United States.

Hieracium ostreophyllum Standl. & Steyerm., sp. nov.—Herba perennis herbacea 45–50 cm. alta; caudex brevis apice dense longipilosus; folia basalia ad anthesin persistentia 4–6 oblongo-obovata vel oblongo-spathulata, subtus purpurascentia, 4–8 cm. longa 2–3.5 cm. lata, utrinque pilis albis 3–5.5 mm. longis longisetosa, apice obtusa vel rotundata, ad basin subsessilem angustata, utrinque 4–5-calloso-dentata; folium caulinum vulgo 1, 4–7 cm. supra basin caulis insertum, elliptico-oblanceolatum vel lanceolatum, ca. 2.5 cm. longum et 5 mm. latum, acutum, ad basim attenuatum, utrinque longipilosum; caules pilis albis 3–5 mm. longis longisetosi, superne sparse breviter pilosi et glanduloso-pilosi vel glabrati, ad inflorescentiam densius glanduloso-pilosi; inflorescentia laxe racemoso-corymbiformis 6–8 cm. alta 4–5 cm. lata, pedunculis 1–2.5 cm. longis, dense glanduloso-pilosis; capitula 4–6 modica 33–35-flora; involucrum ca. 3-seriatum 9–12 mm. altum 5.5–10 mm. (in statu fructifero) latum, bracteis 22–23, extimis lineari-triangularibus brevibus, ceteris lineari-lanceolatis abrupte acutis et triangulari-appendiculatis, dense glanduloso-pubescentibus, pilis usque 1.5 mm. longis, marginibus subscariosis; corollae luteae 10–11 mm. longae; achaenia brunnescenti-nigra 3–3.5 mm. longa costata, ad angulos minute tuberculato-hispidula; pappi setae albae vel albescentes 5.5–6.5 mm. longae dense serrulato-barbellatae.—Guatemala: Dept. San Marcos: Dry pine slopes, barranco 6 miles southwest of Tajumulco, northwestern slopes of Volcán de Tajumulco, alt. 2,300–2,800 meters, February, 1940, *Julian A. Steyermark* 36690 (type in Herb. Field Mus.). Dept. Huehuetenango: Pine-oak forest, mountains southwest of Malacatancito, alt. 1,800–2,400 meters, January, 1939, *Standley* 62633.

This appears to belong to the section *Crepidisperma* and is the first of the section to be reported from Central America. It is nearest *H. Fendleri* Schultz Bip. of southwestern United States and northern Mexico, but differs in the densely long-glandular pubescence of the involucral bracts, which lack the floccose hairs of that species; also in the much less hairy stems and relatively smaller and shorter heads.

Hieracium tacanense Standl. & Steyerm., sp. nov.—Perennis herbacea, caule solitario 40 cm. alto plerumque prope basin foliato, superne minute sordide flocculoso-tomentuloso, inferne densius tomentuloso, superne praesertim ad inflorescentiam dense pilis setiformibus 2 mm. longis tomentoso; folia radicalia ad anthesin deficientia; folia caulina ca. 4 firme membranacea anguste lineari-oblanceolata in basin petioliformem angustata, subito acuta et

calloso-apiculata, 12–15 cm. longa 7–9 mm. lata, dentibus utroque latere 6–7 brevibus, supra modice breviterque pilosula, subtus densius sordide floccoso-tomentosa; inflorescentia densa breviter corymbosa 2–4 cm. longa et aequilata; capitula 4–7 modica ca. 65-flora, ramis inflorescentiae erecto-adscendentibus, pedunculis 4–10 mm. longis dense sordide floccoso-tomentulosis et patenti-setosis; involucrum ca. 3-seriatum 7–9 mm. altum, 5–10 mm. in statu fructifero latum, bracteis ca. 30, exterioribus brevibus linearitriangularibus, interioribus lineari-lanceolatis intense viridibus acutis vel subacutis, pilis densis adscendentibus longis setiformibus sordide nigro-pilosis, nigro-vittatis, marginibus subscariosis; corollae luteae 7–7.5 mm. longae, lamina 4–5 mm. longa 1 mm. lata 5-denticulata glabra, tubo 4 mm. longo glabro; achaenia immatura 2.8–3 mm. longa fusco-brunnea ca. 8-costata ad costas dense antrorso-hispidula; pappus sordidus 4.5–5 mm. longus barbellatus.—Guatemala: Dept. San Marcos: Between Sibinal and summit of Volcán de Tacaná, alt. 2,500–4,400 meters, February 19, 1940, *Julian A. Steyermark* 36128 (type in Herb. Field Mus.).

Referable to section *Verbasciformia*, and related to *H. Selerianum* Zahn. It differs from that species in having much narrower leaves, in the long spreading setiform hairs on the branches of the inflorescence, more densely hairy involucral bracts, and larger achenes.

Mikania guatemalensis Standl. & Steyerm., sp. nov.—Scandens, caulibus teretibus glabris; folia petiolata ovata firme membranacea vel subcoriacea, supra intense viridia lucida, subtus pallidiora, lamina 4.5–10 cm. longa 2.5–5 cm. lata supra basin pinnatim 5-nervia, acuminata et submucronata, basi truncata vel subcuneata, glabra, marginibus integris, petiolis glabris 2–4 cm. longis; inflorescentia racemoso-paniculata pyramidalis; capitula 4-flora numerosa non congesta 6–7 mm. alta, ramis inflorescentiae glabris, pedicellis glabris vel sparse pilosulis 2–3 mm. longis; bracteae involucri linearilanceolatae vel oblanceolatae subacutae sparse ciliolatae 3–3.5 mm. longae; corollae albidae 3.5–4 mm. longae glabrae sparse glanduliferae, lobis 0.6 mm. longis, fauce 1.5 mm. longo in tubum angustum 2 mm. longum contracto; pappi setae 28–36 albae serrulatae; achaenia pallide brunnea 2.6–2.8 mm. longa sparse vel modice puberula, glandulis brunneis conspersa.—Guatemala: Dept. Izabal: Puerto Barrios, at sea level, February 25, 1905, *C. C. Deam* 40 (type in Herb. Field Mus.); same locality, in *Manicaria* swamp, *Standley* 72836. Seashore at Punta Palma, *Steyermark* 39824, 39840. Near Cristina, *Steyermark* 38388.—British Honduras: In jungle, *Schipp* 28.

Related to *M. Houstoniana* (L.) Robinson, with which it has been confused. It differs from that species in its glandular-puberulent rather than glabrous achenes, glabrous or almost glabrous leaves, and less dense inflorescence. In appearance it simulates also *M. leiostachya* Benth., but differs in its pedicellate heads and the glabrous lower leaf surfaces.

Pectis flava Standl. & Steyerm., sp. nov.—Annua, caulibus inferne simplicibus superne ramosis, ramis divergenti-adscendentibus, 8–12 cm. alta glabra; folia lineari-oblonga vel lineari-elliptica 7–11 mm. longa 1.6–2.1 mm. lata basi connata, prope basin 2-ciliata, cuspidata, glabra, subtus pallide viridia glanduloso-punctata; capitula solitaria in axillis vel ramulos terminantia, pedunculis glabris 8–16 mm. longis; involucrum 4.5–5 mm. altum 2–2.5 mm. latum, bracteis 5 linearibus vel oblongo-linearibus obtusis vel acutiusculis scarioso-marginatis, 1-seriatim glanduloso-punctatis glabris; radii 6, ligulis 1.7 mm. longis 0.7 mm. latis; disci flores 5, corollis 2.1 mm. longis, lobis ovatis obtusis, fauce 1 mm. longo, tubo vix angustiore 1 mm. longo; achaenia immatura nigrescentia linearia 3.5 mm. longa minute transverse rectangulari-reticulata, antrorse hirtella; pappi squamellae lanceolatae vel lineares inaequales serrato-setulosae 0.5–1.2 mm. longae.—Guatemala: Dept. Jutiapa: Plains and swampy ground along railroad between Agua Blanca and Amatillo, alt. 950–990 meters, October 24, 1939, *Julian A. Steyermark* 30415 (type in Herb. Field Mus.).

Related, apparently, to *P. Swartziana* Less., from which it differs in having 5 instead of 7 involucral bracts, slightly shorter involucres, and peduncles only 1.5–2 rather than 2.5–3 cm. long.

Polymnia Standleyi Steyermark, sp. nov.—Herbacea vel suffrutescens 2.5–5 m. alta erecta, caule viridi inferne usque 5 cm. diam. glabrato vel superne pilis parvis curvis adpressis sparse puberulo; folia opposita tenuiter membranacea, media et inferiora flabelliformi-obovata 25–35 cm. longa 13–16 cm. lata, acuta, basi contracta et in petiolum late alatum 8–15 cm. longum 2.5–4 cm. latum decurrentia, petiolo basi auriculato arcte setuloso-dentato, lamina triplinervia; folia caulina superiora breviora triangulari-hastata vel rhombeo-elliptica, petiolo 0.5–4 cm. longo 5–15 mm. lato, basi auriculato, supra molliter pilosa, subtus glanduloso-villosula; pedunculi glanduloso-puberuli et glanduloso-pilosi; capitula radiata paniculato-corymbosa; involucri bracteae 5 patentes ovatae membranaceae 1.5–2.5 cm. longae 1–2 cm. latae acutae, basi latae et subcordatae, palmatim

5–6-nerviae, extus glanduloso-puberulae; receptaculum planum 9 mm. latum; radii 9–11 lutei apice trilobi, lamina 15 mm. longa 5 mm. lata, feminei; disci flores lutei hermaphroditi ca. 50–75, corolla 7–8 mm. longa; paleae exteriores complicatae flores arcte involventes curvae 7 mm. longae, glandulis sessilibus et stipitatis dense conspersae, apice sparse pilosulae, interiores oblongo-spathulatae 6 mm. longae acutiusculae; achaenia epapposa compresso-tetragona subacute angulata cuneato-obovoidea 2.5 mm. longa 1.5 mm. lata, apice abrupte angustata, fusco-brunnea, reticulari-lineolata.—Guatemala: Dept. San Marcos: Between La Vega Ridge along Río Vega and northeast slopes of Volcán de Tacaná, vicinity of San Rafael, Volcán de Tacaná, alt. 2,500–3,000 meters, February 20, 1940, *Julian A. Steyermark* 36181 (type in Herb. Field Mus.); also no. 36265. Near town of Tajumulco, alt. 2,300–2,800 meters, *Steyermark* 36860.

In general appearance like *P. maculata* Cav., but differing in its much larger involucral bracts, much smaller achenes, larger heads, unlobed serrate flabelliform-obovate leaves with a different type of pubescence, conspicuously stipitate-glandular peduncles, and its often much greater size. An unusual feature of the species is the fact that many of the heads have fertile disk florets that produce fertile achenes. One of the distinguishing characters of *Polymnia* is supposed to be the possession of sterile disk florets.

Schaetzellia Standleyi Steyermark, sp. nov.—Ut videtur perennis 50 cm. alta vel ultra suffrutescens, caulibus brunneis teretibus dense praesertim superne tomentulosis; folia opposita patentia membranacea utrinque intense viridia petiolata triangulari-ovata, basi palmatim 3-nervia, grosse crenata, prope apicem anguste angustatum obtusum integra, basi subito truncata vel subtruncata, lamina 1.5–4 cm. longa 1–3.5 cm. lata, utrinque dense griseo-velutina, subtus dense puncticulata, petiolis 6–10 mm. longis minute denseque velutinis; inflorescentiae ramos terminantes dense breviterque corymbiformes, pedunculis 2–2.5 mm. longis dense minute velutinis; capitula homogama 15–30, ca. 16–25-flora, receptaculo conico nudo; involucrum turbinato-cylindraceum 3.5–4 mm. altum 2–2.5 mm. latum 2-seriatum, bracteis exterioribus apice paullo purpurascentibus, bracteis ca. 10, exterioribus subinaequalibus interioribus brevioribus vel eas subaequantibus, spathulato-oblanceolatis abrupte mucronatis, conspicue 3-nerviis vel obscure 5-nerviis, dorso glanduloso-pilosulis, glandulis breviter stipitatis vel subsessilibus; corollae albae 2.8 mm. longae, lobis late ovatis subobtusis dorso puberulis 0.6–0.7 mm. longis, fauce infundibuliformi 0.7–1.2 mm. longo sparse glandu-

loso, abrupte in tubum 1–1.2 mm. longum angustato; appendices antherarum latae triangulares obtusae, basi integra obtusae vel rotundatae; styli rami longi graciles lineari-oblongi obtusi dorso dense papillosi; pappi setae 2 graciles setiformes 2.3–2.5 mm. longae serrulatae vel barbellatae; achaenia nigra compressa lineari-oblonga ecostata superne ad margines modice hispidula, ad facies sparse hispidula, ca. 2 mm. longa.—Guatemala: Dept. Jutiapa: Dry slopes of rocky escarpment bordering Lago de Retana, between Ovejero and Progreso, alt. 600 meters, November 26, 1939, *Julian A. Steyermark* 32041 (type in Herb. Field Mus.). Dept. Chiquimula: Dry rocky glade slopes, Montaña Castilla, 3 miles southeast of Quezaltepeque, alt. 1,200–1,500 meters, *Steyermark* 31344.

Heretofore there has been known a single species of this genus, *S. mexicana* Schultz Bip. The Guatemalan plant differs from the Mexican one in its pubescent rather than glabrous involucral bracts, which are shorter, firmer, and of a different shape, in having the leaves truncate or subtruncate instead of cuneate at the base, in the closely 6–10-crenate rather than 3–7-crenate leaf margins, in the evenly tomentulose rather than villous or villosulous lower surfaces of the leaves, and in the subligneous perennial habit.

Stevia chortiana Standl. & Steyerm., sp. nov.—Herba perennis, caulibus suberectis simplicibus usque ad medium foliosis, internodiis inferioribus 1–1.5 cm. longis, superioribus 2–4 cm. longis; folia opposita ovata acuta vel subobtusa crenato-dentata, dentibus utroque latere 9–10, abrupte contracta et inferne petioliformia, utrinque villosa et glandulosa, 2.2–4 cm. longa 1.2–2 cm. lata; inflorescentia corymbosa sublaxa, ramulis adpresso-pilosis; capitula 6–7 mm. alta breviter pedicellata; involucrum ca. 3.2 mm. altum, bracteis oblongis obtusis glandulosis et villosulis; corollae roseae 4–4.2 mm. longae; achaenia immatura heteromorpha 2.5 mm. longa ad costas hispidula, setae adelphocarpiorum 4 setuloso-serratae acuminatae, basi coronae squamis cuneatis paullo erosis circumdatae, idiocarpio squamis eroso-dentatis coronato.—Guatemala: Dept. Chiquimula: Dry wooded pine-clad slopes, between Finca San José (southeast of Concepción de las Minas) and Montaña Nube (Montaña Volcancitos), alt. 1,200–1,700 meters, October, 1939, *Julian A. Steyermark* 30866 (type in Herb. Field Mus.).

The specific name is derived from that of the Chorti Indians who inhabit the region of Guatemala in which the plant grows. The species is related to *S. hirsuta* DC., which has larger heads and involu-

cres and a more compact inflorescence, with less conspicuously pedunculate heads. The involucral bracts are more densely covered with sessile glands than in *S. hirsuta.*

Verbesina guatemalensis Rob. & Greenm. var. **glabrata** Standl. & Steyerm., var. nov.—Folia subtus glabrata vel sparse puberula.—Guatemala: Dept. Zacapa: Lower slopes of Sierra de las Minas, along trail above Río Hondo, alt. 250–900 meters, October, 1939, *Julian A. Steyermark* 29505 (type in Herb. Field Mus.); a shrub 3–4 meters high; flowers white. Also, from the same region, *Steyermark* 29491 and 29370.

Verbesina apleura Blake, var. **foliolata** Standl. & Steyerm., var. nov.—Folia suprema ramulorum floriferorum elliptico-obovata 5–7.5 cm. longa 1.5–2.8 cm. lata, supra medium remote denticulata, dentibus angustis utroque latere 2–7, supra scabridula, subtus densius hirtello-scabridula, apice acuta vel acuminata, basi cuneata; capitula laxe aggregata 10–11 mm. alta, 10–13 mm. lata, 3–6 mm. longe pedunculata; bracteae extimae insigniter foliosae subaequales obovatae ad elliptico-oblanceolatae, subacutae, 7–10 mm. longae 3–5 mm. latae; bracteae interiores lanceolatae ad oblongo-lanceolatae 5–7 mm. longae 1.5–2 mm. latae.—Guatemala: Dept. Quezaltenango: In thicket, slopes of Volcán de Santa María, above Palojunoj, alt. 2,700 meters, March, 1939, *Paul C. Standley* 67540 (type in Herb. Field Mus.).

A shrub or small tree 2.5–5 meters high; common. From typical *V. apleura* this variety differs in the foliose subequal outer bracts and in the much smaller upper rameal leaves.

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